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ABSTRACT

Designed to provide individualized, hands-on experience for secondary or postsecondary students in gainful homemaking programs, this occupational clothing curriculum contains eight learning modules. The following topics are covered in the modules: plant production for the needle trades (needle trade structure and operation, terminology, history, equipment/techniques, careers/job availability, labeling); power sewing equipment (teacher maintenance, student use and care); basic industrial sewing techniques (stitching various fabrics and blindstitching); short projects (advanced stitching methods, utilization of basic attachments); needle trade production simulation; drapery making (basics of drapery making, selecting styles, measuring/cutting, constructing pleated drapes); recreational vehicle upholstery (box cushion construction, cording and zipper insertion techniques); and alterations (occupations in alterations, basic alteration procedures, determination of preparations that are possible in changing the dimensions of commercial garments). Following an initial listing of competencies taught in the given module, each module includes learning activities, worksheets, and performance checklists. A module evaluation form is appended. (MN)

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OCCUPATIONAL CLOTHING CURRICULUM

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MODULAR OCCUPATIONAL
CLOTHING CURRICULUM

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Module Assessment

History

The writing of the Modular Occupational Clothing Curriculum was begun in June, 1979. This was not a haphazard undertaking but a project created to fulfill a twofold need--a need in the clothing area of Home Economics which was created by the passage of a law in the state of Utah and a need of the needletrade manufacturers, one that has plagued the industry since the turn of the century.

Although occupational clothing--or vocational clothing has been offered in secondary education as an alternate learning experience to the traditional "home sewing" for some time, it has just recently taken on a new importance. A law passed in Utah in 1979 required that graduating high school seniors either have a number of units of credit toward an identified major to be pursued at the post-secondary level or that they have the equivalent in vocational skills. Incorporation of Occupational Clothing classes in the high schools makes training available to students who upon completion of specified courses would be employable as machine operators in needletrade companies.

The Needletrade Industry or Sewn Products Industry is labor intensive, employing 80% of all women in the national work force. This industry is growing in Utah--the past ten years has seen a 600% growth rate. The need for machine operators is constant; therefore, students with skills in industrial machine operation would be a potential work force to the manufacturers in the state.

These two "need factors" would seem to be the ideal ingredients for success. However, there is another element necessary for the successful implementation of any type of vocational program: cooperation.

In May, 1979, the Module Developer attended a meeting in Provo, Utah, of the Utah Needlecraft Industries Association (UNIA) for the purpose of determining whether any such cooperative efforts--pre-training of students for industry would be warmly received. The UNIA, an organization of approximately 60 member needletrade plants in the state, was thought to be a good vehicle to obtain a valid opinion.

A questionnaire was administered to those in attendance at the May, 1979 meeting. The results indicated that the industry was almost 100% in favor of cooperation with the schools.

The next step was to gain teacher support. In June, 1979, at the State Vocational Convention at Utah State University, the Developer presented a program to high school clothing teachers aimed at creating enthusiasm for incorporation of an occupational or vocational clothing program.

Following that meeting, ten teachers were recruited to write selected occupational clothing modules in a graduate curriculum writing class, HECE 617, offered through Utah State University, supervised by the Module Developer, Annette J. Fraser. The initial module writers were as follows:

Lynne R. Bratke
DeAnn Degelbeck
Irene D. Hardman
Jane J. Laird
Maxine H. Newton
Margie Olds
Eunice H. Pixton
Ann Sessions
Kay P. Stark
Dorothy S. Weirick

The above teachers combined efforts to write the following modules: (1) Plant Production for the Needletrades; (2) Career Exploration of the Apparel Industry; (3) Equipment: Use and Care; (4) Techniques Used in Power Sewing; (5) Short Projects; (6) Drapery Making; (7) Recreational Vehicle Upholstery; (8) Alterations.

These first modules were completed in May, 1980. The group of eight modules were copied and distributed to teachers who attended an Occupational Clothing Workshop at Utah State University in August, 1980. Each teacher who participated in the initial writing also received a complete packet of the curriculum. These teachers were encouraged to use the modules in their teaching the following year.

Evaluation

Funds obtained through the State Department of Vocational Education made possible an evaluation of the existing Modular Occupational Clothing Curriculum. The Module Developer compiled an evaluation instrument for the curriculum to be distributed to those teachers using the modules as well as a select advisory committee from the Needletrade Industry.

The evaluation tested each module for: (1) accuracy of materials; (2) appropriateness of materials in relation to target population and subject matter area; (3) verbal and visual fluency; (4) usefulness and versatility; the above areas were assessed on a Likert Scale of one to five. Numerical scores totalled for each of the four areas were added together (60 possible points). The module was then assessed as follows: unacceptable--below 36 points; useful--36 to 48 points; excellent--49 to 60 points (sample form in Appendix).

Results of the evaluation indicated that six of the modules were rated "excellent," receiving averaged cumulative scoring of 56.6 to 60 points. Two were rated "useful," receiving averaged cumulative scoring of 43.0 and 46.3, respectively.

Revision

The followup of the Module Evaluation began the spring of 1981. Again, the State Office of Vocational Education granted funds to the Module Developer to revise, update, and provide illustrations for the Occupational Clothing Modular Curriculum.

The module evaluation indicated that the weakest point in all modules was clarity of verbal fluency and visuals. For this reason, an agreement was made to illustrate the existing material where clearness of objectives could be increased.

Therefore, a complete editing process was begun. Those modules receiving lowest scores were completely rewritten and incorporated into other modules. All modules were again checked for continuity of subject. In addition, a new module was written to cover basic stitching skills. Each module was also provided with a competency check to evaluate performance of learning activities. It is suggested the instructor maintain 75%-80% competency ratings.

Conclusion

The Modular Occupational Clothing Modules thus available in the following packet has been written, tested, evaluated, and revised by interested participants in the State of Utah. It is the hope of those so involved that the curriculum will be found useful and productive in fulfilling the needs of education and industry alike.

Suggestions for Using the Modular Occupational Clothing Curriculum
(Summary)

This curriculum has been written in an effort to provide individualized, hands-on-experiences for secondary or post-secondary students in Gainful Homemaking Programs (i.e. Occupational Sewing). Following the modular plan, it is possible that a teacher may use all or parts of the curriculum by determining which objectives are relevant to the needs of the students.

Certain modules may be selected for use without any prerequisites. Others rely on competencies gained from material studied previously. In an effort to clarify subject matter, the following material may be helpful.

I. Plant Production for the Needletrades

No prerequisites

Needletrade structure and operation
Terminology
History
Equipment/techniques as compared to home sewing
Careers/job availability
Labeling

II. Power Sewing Equipment

Part I - Teacher Maintenance
Part II - Student Use and Care

No prerequisite

Basics in maintenance for the instructor
Student care: basics for single needle, serge, and blindstitch machines

III. Basic Industrial Sewing Techniques

Prerequisite: Power Sewing Equipment

Exercises useful in training students for single needle, serge, and blindstitch machine operations
Project incorporated in order to demonstrate skills

IV. Short Projects

Prerequisites: Power Sewing Equipment
Basic Industrial Sewing Techniques

More advanced stitching methods included. Utilization of some basic attachments. This module could be combined with Needletrade Production Simulation module using the latter as a vehicle for the final project.

V. Needletrade Production Simulation

Prerequisites: Power Sewing Equipment
Basic Industrial Sewing Techniques

Actual production performance utilizing factory techniques in construction of a project.

VI. Drapery Making

Prerequisites: Power Sewing Equipment
Basic Industrial Sewing Techniques

The basics for drapery making
Selection of drapery styles
Measuring/cutting
Construction of pleated drape

VII. Recreational Vehicle Upholstery

Prerequisites: Power Sewing Equipment
Basic Industrial Sewing Techniques

Applicable to upholstery classes.

The basics in box cushion construction
Cording and zipper insertion techniques

VIII. Alterations

Prerequisites: Power Sewing Equipment
Basic Industrial Sewing Techniques OR
could use without power machinery; i.e. regular home sewing equipment

Acquaints students with occupations in alterations
Basic alteration procedures
Determine which operations possible in changing dimensions of commercial garments

PLANT PRODUCTION FOR THE NEEDLE TRADES

This module relevant to
the following areas:

Needle Trade History and Overview

Needle Trade Role, Nature and Locations

Plant Production Processes

Plant Equipment, Machines and Technical Skills

Needle Trade Occupations and Vocations

Career/Vocational Education

Consumer Education

PLANT PRODUCTION FOR THE NEEDLE TRADES

MODULE

The needle trades is an important part of the American industry. It provides jobs to many people with a wide variety of interests and skills who produce clothes and other sewn products.

The needle trade industry is the--

2nd largest manufacturing industry,
3rd largest consumer industry,
4th largest employer, and has
plants (factories) located in almost every state in our nation.

The needle trade industry provides rewarding, productive vocations. There is a great deal of satisfaction to be derived from a job that is productively creative, gives financial return and which results in a readily apparent end product.

The need for different types of apparel for adults and children is an increasing and demanding challenge. With an increase in population, and more available money and leisure time, people want and need more clothing than they ever have before. They want sportswear and uniforms and specialized clothing and other products.

Everyone does not have the time, desire, nor the ability to sew their own clothes at home. Some things, if made at home, would require technical and costly equipment, or would be too difficult to make.

The apparel industry produces clothes that not only are appropriate for the occasion--be it work or leisure activities--but in such a wide variety of styles that we can select apparel to match our moods and express our personality. Skilled employees in the needle trades produce every kind of wearing apparel for men, women, and children, as well as uniforms for policemen, firemen, and personnel of the military and space programs. In addition to clothes, the industry produces linens, draperies and other products made from cloth such as tents, parachutes and automobile seat covers.

The purpose of this module is to assist you in becoming aware of the scope and nature of the needle trades and its large variety of operations, skills and equipment used to process materials into a finished product.

Upon completing this module you should be able to:

1. Record information related to the structure and operations of the needle trade industry which you have learned through observation and study.

2. Compile and define the words and terms you learn which are used in or related to the needle trade industry and use them to make an alphabetical glossary.

3. Report on the nature of the past and present needle trade industry showing the growth and changes that have taken place.

4. Categorize and describe the major operations performed in a garment plant and list several specific occupational skills or jobs under each category.

5. Describe the equipment and techniques used in garment plants to make clothing and compare this to home sewing equipment and methods.

6. Explain some basic safety procedures and responsibilities that both the employer and the employee should practice in the garment plant.

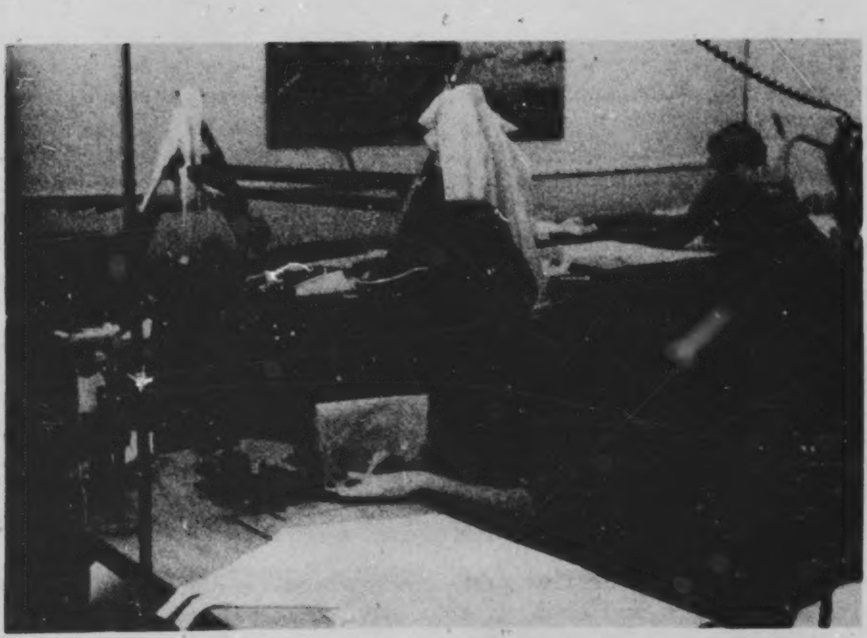
7. Investigate and examine different kinds of labels and explain their use in the garment plant.

8. Show the step-by-step processing of a piece of fabric from the time it enters the garment plant until it leaves as a finished garment.

9. Give examples of methods used in the needle trades to help:
   (1) improve speed and efficiency of workers,
   (2) improve quality and workmanship of products,
   (3) reduce manufacturing costs and increase profits.

10. Describe employment opportunities available in the needle trades including: job availabilities, qualifications and experience needed, training offered, working conditions and benefits, wages and advancement opportunities.

11. Relate some personal benefits which you might have gained from having a better understanding and knowledge of the needle trade industry.



COMPETENCY #1. Record information related to the structure and operations of the needle trade industry which you have learned through observation and study.

LEARNING ACTIVITIES

In order to meet the objective you ought to be able to perform the following:

1. Use the worksheets provided to record the information you are learning. This will help you to remember, identify and classify the information and will help you in completing other competencies in this module.
2. Read the reference materials listed on the Reference List located at the back of this module.
3. Watch one or more of the films or slide presentations showing a garment plant in operation. These are listed on the Reference List located at the back of this module.
4. Tour a garment manufacturing plant in your area. If time and facilities are available, tour both a contract shop and manufacturer which make different kinds of items or operate their facilities differently.
5. Arrange for and visit a Career/Vocational Education Program if one is being taught in your area. (Optional)
6. Invite a garment plant manager or personnel director to visit and talk to your school class. (Optional)

LEARNING ACTIVITY #1. Use the worksheets provided to record the information you are learning. This will help you to remember, identify and classify the information and will help you in completing other competencies in this module.

Information is easier to remember and use if you have some helps to guide your thinking, stimulate questions and classify what you learn. The following work sheets are provided for that purpose. If you preview the worksheets and fill them in as you work on each learning activity, they will help you in completing other competencies and activities in this module.

(A) WORK SHEET FOR COMPETENCY #1, LEARNING ACTIVITY #1

GENERAL GUIDE SHEET AND QUESTIONNAIRE FOR STUDY OF THE NEEDLE TRADES:
(Use to guide study and research.)

1. Briefly describe the needletrade industry. (An overview.)

2. Where are the needletrade industries presently located in our nation? Our state?

3. Have there been changes in industry locations in recent years? If so, for what reasons?

4. What general occupational divisions of work are recognized in the trade?

5. How many people are employed in the needletrades in our nation? Our state?

6. How many people work in each occupational division?

7. How many women are employed compared to men?

8. What types of skills (in general) are used or needed?

9. What types of skills (generally) are used or needed in each occupational division?

10. How does the industry attempt to standardize and classify jobs and skills?

11. What kind of qualifications, education or training is needed to work in the needletrades?

12. What kind of education or training is available?

13. What is the employment outlook for the future?

14. What current earnings and working conditions (in general) are available?

15. What is the average size of the workforce of the needletrades?

16. What new trends and advancements are taking place in the industry?

17. What safety standards and procedures are used in the trades?

18. Miscellaneous:

(B) WORK SHEET FOR COMPETENCY #1, LEARNING ACTIVITY #1

OBSERVATION SHEET FOR TOURS THROUGH NEEDLE TRADE PLANT: (Use one for each tour.)

COMPANY NAME:

PRODUCT(S) MANUFACTURED:

APPROX. # OF EMPLOYEES:

HOW LONG COMPANY HAS BEEN IN THIS LOCATION:

DOES COMPANY HAVE OTHER PLANTS? WHERE?

PRODUCTION PROCESS SYSTEM USED:

_____ (A) PROCESS FLOW (Parts made in different work areas and come together for final assembly.)

_____ (B) PROGRESSIVE BUNDLE (Work done in assembly line sequence.)

_____ (C) SECTION WORK (Each individual project made mostly by one employee.)

MAJOR OPERATIONAL AREAS: (TYPES OF EQUIPMENT USED, JOBS PERFORMED, ETC.) (All companies may not have all divisions of work.)

_____ (A) DESIGNING ROOM OCCUPATIONS:

_____ (B) CUTTING ROOM OCCUPATIONS:

_____ (C) SEWING ROOM OCCUPATIONS:

_____ (D) PRESSING OCCUPATIONS:

_____ (E) ADMINISTRATIVE AND BUSINESS:

MAKE A SIMPLE SKETCH OF THEIR FLOOR PLAN:

QUALIFICATION REQUIRED FOR EMPLOYMENT:

PREVIOUS TRAINING OR EXPERIENCE PREFERRED:

TYPE OF TRAINING OFFERED:

JOB TURNOVER: WAITING PERIOD:

WAGE SCALE AND BASIS:

JOB BENEFITS:

OPPORTUNITIES FOR ADVANCEMENT:

SAFETY PROCEDURES AND PRECAUTIONS:

MISCELLANEOUS:

LEARNING ACTIVITY #2. Read the reference materials listed on the Reference List located at the back of this module.

A list of reference and text books and industry resources is included at the back of this module. Read the sections in the books and references that pertain to the needletrades and consumer awareness. Your library or teacher will have these references for you to use or they can tell you where to find them. You may need to send for some of the information on your own.

LEARNING ACTIVITY #3. Watch one or more of the films or slide presentations showing a garment plant in operation. These are listed on the Reference List located at the back of this module.

The needletrade industry in this country plays a major role in the economy. It provides clothes and other products for millions of people. It provides jobs for millions of people (many requiring very little education or training) who earn billions of dollars in salaries.

There are needletrade plants located in almost every state in the nation. Utah has at least one located in every section of the state and several located in or near larger cities.

Your teacher will arrange for you or your class to see one or more of the films or slide presentations. This will give you a better knowledge and understanding of the needletrade industry and the production process that goes on there. Use your worksheets to help you remember the information.

LOOK AT OUR INDUSTRY

LEARNING ACTIVITY #4. Tour a garment manufacturing plant in your area. If time and facilities are available, tour both a contract shop and manufacturer which make different kinds of items or operate their facilities differently.

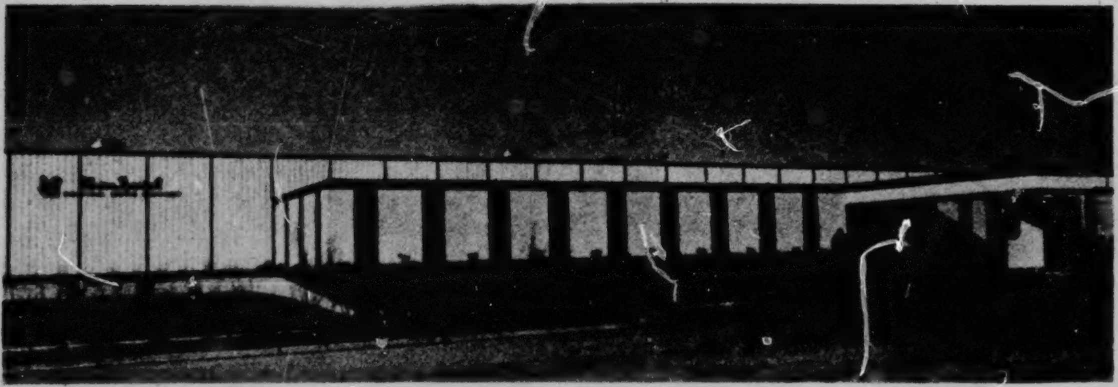
A tour through a garment plant or needletrade industry gives you a first hand opportunity of seeing a real plant in operation. You will see how the fabric is processed into a completed garment. You will observe skilled workers and many kinds of specialized equipment. You will see processing and organization procedures which keep the work moving along smoothly.

Each factory will differ in techniques and process due to pricing, availability of machinery, type of fabrics being used or the type or style of clothes or product being made. Different companies make different products. They specialize for reasons of speed, efficiency and economy. Some may make ski wear, others men's wear or knit sports wear. Some may make parachutes or awnings or sleeping bags.

Each type of product may require a different way of processing and organizing the work. Production must flow in the most efficient manner. Some use an assembly line where work is processed from step to step through completion. Others may group work according to the techniques performed and then bring all the finished parts together for complete assembly at the end. A custom tailoring factory will have each of their employees making almost the whole product or garment themselves, made to exacting specifications.

It is important to know the difference between an inside shop, or manufacturer, where all phases of production take place and an outside shop, or contractor, where sewing or specialty operations take place.

Your teacher will arrange for one or more tours through a needletrade plant. Use your worksheets and the following questions to help you remember the information you learn and the process you see.



COMPARISON OF INSIDE AND OUTSIDE SHOPS

A. Complete the following questions during your visit of an inside shop.

1. Make a list of the jobs you see the various people in the shop doing.

2. Question two different workers about their job, training, and skill required.

3. Draw a diagram and label the steps a garment goes through in its production in this shop. (beginning to finished product)

4. How many different types of garments are made in the shop? List what they are.

5. How many people are employed?

B. Complete the following questions during your visits to a contract shop.

1. List the jobs you see the various people doing in this shop.

2. Question two different workers about their job, training, and skill required.

3. Diagram and label the steps a garment goes through in this shop. (note the state in which it comes into the shop)

4. How many different garments are made in the shop? List what they are.

5. How many people are employed?

C. Complete the following questions after both inside and outside shops have been visited.

1. What jobs are done in both inside shop and contract shop?

2. Which shop had the greater number of employees?

3. In which shop did you see the greatest number of variety of garments produced?

4. In which shop did you see the greatest variety of jobs being done?

5. Give a definition of an inside shop.

6. How would you describe the work done in a contract shop?

7. Which of the two types of shops you visited would you feel the most comfortable working in? Which would provide the greatest opportunity for advancement of employees?

8. If you wanted to have a small business of your own, which shop would be the best type to have? Why? How might you set it up?

9. Compile a list of advantages and disadvantages of employment in a contract shop.

10. Compile a list of advantages and disadvantages of being employed in an inside shop.

LEARNING ACTIVITY #5. Arrange for and visit a Career/Vocational Education Program if one is being taught in your area. (Optional)

A visit to a Career/Vocational Education course in the needletrades would give you a closer look at how skills are learned and performed and the kinds of machines and techniques used in the trade.

If there is a training center (vocational school, technical trade school, community school or industrial training course, etc.) in your area, try to arrange for a visit. Use your worksheets to help you remember the information.

LEARNING ACTIVITY #6. Invite a garment plant manager or personnel director to visit and talk to your school class. (Optional)

Someone involved directly in the business of making stitched products would be able to give you some information and ideas from the industry's point of view.

If time permits, invite a garment plant manager or personnel director to speak to your class. If one of these people were not available, perhaps someone from an apparel manufacturers association would come.

COMPETENCY #2. Compile and define the words and terms you learn which are used in or related to the needletrade industry and arrange them in an alphabetical glossary.

LEARNING ACTIVITIES

In order to meet the objective you ought to be able to perform the following:

1. Record on index cards, each of the words and terms you learn which are used in or are related to the needletrade industry. Write a brief description or definition of each word on the card. Arrange the cards in alphabetical order in a card file envelope.
2. Make an alphabetical glossary from your index cards.

LEARNING ACTIVITY #1. Record on index cards, each of the words and terms you learn which are used in or are related to the needletrade industry. Write a brief description or definition of each word on the card. Arrange the cards in alphabetical order in a card file envelope.

There are many words and terms that are unique to the needletrades. You may already be familiar with some that are also used in home sewing or consumer education.

Write each word and term down on a separate index card along with a brief description or explanation. Keep these in an index file envelope in alphabetical order.

LEARNING ACTIVITY #2. Make an alphabetical glossary from your index cards.

A glossary is a list of words or terms and their descriptions or explanations. It is similar to a dictionary but is not as complete.

Find some examples of glossaries to see what they are like. (One is in the Dictionary of Occupational Titles listed in Reference List.)

Make your own glossary of words and terms used in the needletrades. Use the words you have recorded on the index cards. Keep the list in alphabetical order and cross reference words if necessary.

Example:

BLIND STITCH: A sewing stitch that does not completely penetrate the material in which it is made. Used to fasten lining or hems into garments so that the stitches do not show on the outside.

FINDINGS: A term applied to miscellaneous fittings, such as buttons, snaps, eyes, and ornaments that are sewed or otherwise attached to garments and shoes during manufacture.

GARMENT PLANT: see APPAREL FACTORY.

COMPETENCY #3. Report on the development of the past and present needletrade industry showing the growth and changes that have taken place.

LEARNING ACTIVITIES

In order to meet the objective you should be able to perform the following:

1. Write a report about the past and present needletrade industry describing the growth and changes that have taken place. Include such topics as history, geographical location, size, workforce and factors which might have affected it. Consider new trends and modernization and anything else you think is important.

   (Your teacher may wish to break up this activity by assigning each student a different topic and asking each one of you to present your report orally to the class.)

2. Make a list of all of the stitched items you can think of that could be made in a needletrade factory. Bring examples of at least five (5) different stitched items to class.

3. Fill in the worksheet provided to identify the nature of the needletrade companies in your area or state.

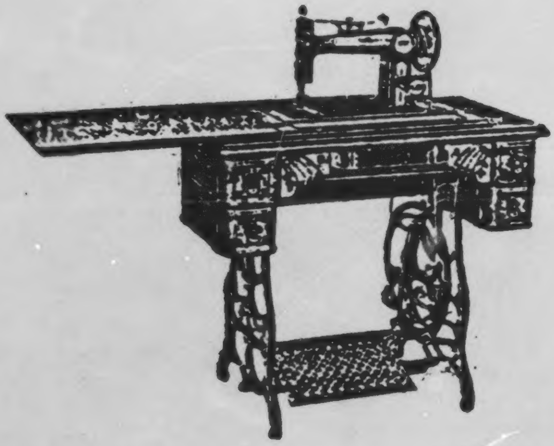
4. Make a display or bulletin board on one aspect (idea or topic) you have learned about the needletrade industry. (Optional)

LEARNING ACTIVITY #1. Write a report about the past and present needletrade industry describing the growth and changes that have taken place. Include such topics as history, geographical location, size, workforce and factors which might have affected it. Consider new trends and modernization and anything else you think is important.

The mass production techniques introduced during the Industrial Revolution were applied to making clothes in the needletrades. Highly specialized machines were developed which could duplicate much of the work that formerly had to be done by hand. They could also do it faster and better. This made it possible to produce relatively good quality, inexpensive clothes in a greater uniformity of styles and make them widely available. As the demand for clothing increased and money became more available, the industry grew and spread out across the country.

Write your report about the needletrade industry and how it has grown and developed. Your report should include background and history, as well as geographical data, industry size and workforce, and factors affecting these topics. Describe the growth and changes that have taken place. What are modern factories like? What are some new trends in the industry? What is predicted in the future of the industry?

Your teacher may wish to break up this activity by assigning each student a different topic and asking each one of you to present your report orally to the class. If she does, do this activity in the same manner, but using only your particular topic.



LEARNING ACTIVITY #2. Make a list of all of the stitched items you can think of that could be made in a needletrade factory. Bring examples of at least five (5) different items to class.

The needletrades is one of the largest manufacturing industries in the United States today. Hundreds and hundreds of products are assembled by stitching.

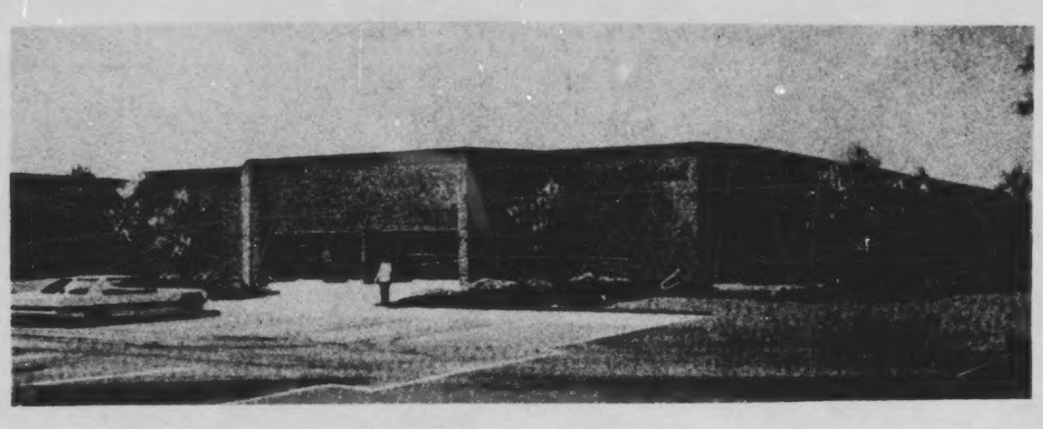
Think of as many stitched products as you can. Investigate and search out stitched items you see in your home and community. Clothing items will probably lead your list but remember that there are also many household and sporting goods items as well. Linens, home furnishings, toys, fashion accessories, travel and auto accessories are but a few areas where stitched products are used.

Make a list of your findings. Bring at least five (5) different kinds of stitched items (or pictures of them if item would be difficult to bring or not available).

LEARNING ACTIVITY #3. Fill in the worksheet provided to identify the nature of the needletrade companies in your area or state.

A study of the needle trade industry in your own state will give you some insight into the total industry. The companies in your state will vary in many ways and may be alike in many ways. Some may be large, others small. They will make a variety of products. Some may be rather new, others established for a long time.

Use the worksheet to record information you find. This worksheet will also help you with other competencies.



WORK SHEET FOR COMPETENCY #3, LEARNING ACTIVITY #3

A STUDY OF NEEDLETRADE INDUSTRIES IN YOUR STATE:

COMPANY	LOCATION	HOW LONG THERE?	PRODUCT(S) MANUFACTURED	APPROX. # EMPLOYEES	BRANCH OF LARGER CO.?	PRODUCTION SYSTEM USED?	WAGE SCALE (APPROX.)

LEARNING ACTIVITY #4. Make a display or bulletin board on one aspect (idea or topic) you have learned about the needletrade industry. (Optional)

A display or bulletin board helps you to remember what you have learned. It also teaches others about the subject.

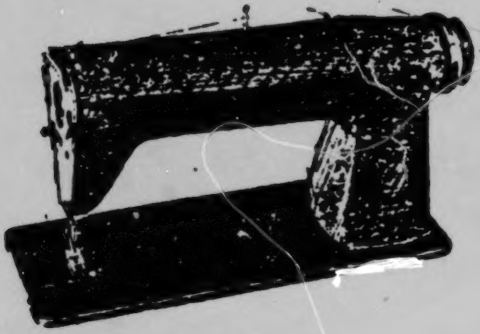
Pick out one idea or topic and develop a display or bulletin board around that theme.

COMPETENCY #4. Categorize and describe the major operations performed in a garment plant and list several specific occupational skills or jobs under each category.

LEARNING ACTIVITIES

In order to meet the objective you ought to be able to perform the following:

1. Name and describe five (5) major operations (departments or divisions of work) performed in a garment plant. List several specific occupational skills or jobs (who handles the materials and what they do) under each category.



LEARNING ACTIVITY #1. Name and describe five (5) operations (departments or divisions of work) performed in a garment plant. List several specific occupational skills or jobs (who handles the materials and what they do) under each category.

In the needletrade industry, most of the production work is divided into general operations or categories, grouped by type of work done and skills or machines used within an area or department. Although these areas of work could be broken down into many smaller operations, they are usually referred to within the scope of the following five major operations or work divisions:

(1) Designing Room Occupations
(2) Cutting Room Occupations
(3) Sewing Room Occupations
(4) Pressing Occupations
(5) Administrative, clerical, sales and Maintenance Occupations

Write down each of these major operations. Describe or explain the general type of work performed in each operation. Make a list of specific occupational skills or job titles (who handles the material and what they do) that falls under each operational category. Give a brief description of the work performed if the job title is not self-explanatory.

COMPETENCY #5. Describe the equipment and techniques used in garment plants to make clothing and compare this to home sewing equipment and methods.

LEARNING ACTIVITIES

In order to meet the objective you should be able to perform the following:

1. Describe the techniques and machines used to cut out and mark pieces of fabric in a garment plant and compare these to home pre-sewing methods.

2. List and describe the different kinds of basic and specialized power-driven industrial sewing machines used in the garment plants and compare these to home sewing machines.

3. Describe the types of pressing operations and machines used in the garment plants and compare them to home pressing equipment and methods.

LEARNING ACTIVITY #1. Describe the techniques and machines used to cut out and mark pieces of fabric in a garment plant and compare these to home pre-sewing methods.

Workers in the cutting room prepare cloth for sewing into garments. There are five basic operations in this area using specialized skills and equipment.

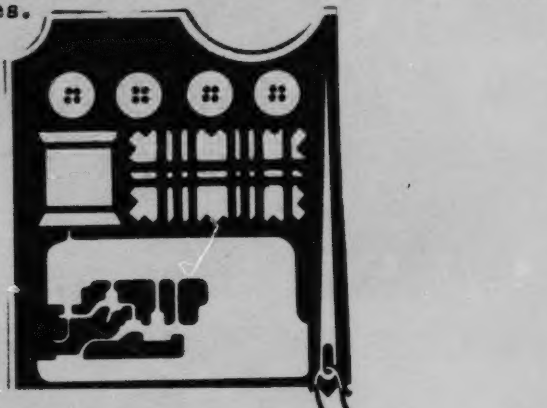
Describe the kinds of activities performed by the employees. Describe the kinds of equipment used and their purposes. Compare and explain how these are different or the same as home pre-sewing methods.

LEARNING ACTIVITY #2. List and describe the different kinds of basic and specialized power-driven industrial sewing machines used in the garment plants and compare these to home sewing machines.

About half of all needletrade employees are sewing machine operators or hand sewers who do the actual construction of the garment. The machines they use are heavy and fast and are specialized to do a single type of operation.

Make a list of the different kinds of basic sewing machines used (basic sewing on various jobs) and describe what they (or their operators) do. Make a list of some very specialized machines used (Perform only one kind of job) and describe what they (or their operators) do.

Compare and explain how industrial sewing machines are different or the same as home sewing machines.



LEARNING ACTIVITY #3. Describe the types of pressing operations and machines used in the garment plants and compare them to home pressing equipment and methods.

The shape and appearance of the finished garments depend, to a large extent, on the pressing that is done during and after the sewing operations. The workers use a variety of steam machines, hot shaping forms and hand irons to flatten seams and shape parts and finish garments.

Name and describe some of the machines and equipment and tell how they are used.

There are two basic types of pressers--underpressers and finish pressers. Explain what is done by each type of worker.

Compare and explain how industrial pressing operations and equipment is different or similar to home pressing methods.

COMPETENCY #6. Explain some basic safety procedures and responsibilities that both the employer and the employee should practice in the garment plant.

LEARNING ACTIVITIES

In order to meet the objective you ought to be able to perform the following:

1. Make a list of things a needletrade company might do to improve safety in the plant and protect the workers. Explain what some of the company's responsibilities might be. Describe the legal requirements or regulations.

2. Make a list of things a worker should know or do for her own safety or that of her fellow workers. Explain what some of employee's responsibilities might be.

LEARNING ACTIVITY #1. Make a list of things a needletrade company might do to improve safety in the plant and protect the workers. Explain what some of the company's responsibilities might be. Describe the legal requirements or regulations.

Safety in the needletrades is very important. The machinery is heavier, faster, and much more dangerous than home equipment. Injuries result in lost time, interruption of the work flow and possible legal complications for the company.

Write down some safety procedures the employer should follow for the protection of his workers and property.

Some safety procedures are regulated by law. Describe what these may be and why.

LEARNING ACTIVITY #2. Make a list of things a worker should know or do for her own safety or that of her fellow workers. Explain what some of the employee's responsibilities might be.

Safe working procedures result in personal security. Employers prefer safe, efficient workers. Careless work habits can result in personal injury, lost work time and wages, damaged equipment or injuries to other workers.

Write down some safety rules and responsibilities an employee should learn and practice. Why are these good rules to follow?

COMPETENCY #7. Investigate and examine different kinds of labels and explain their use in the garment plant.

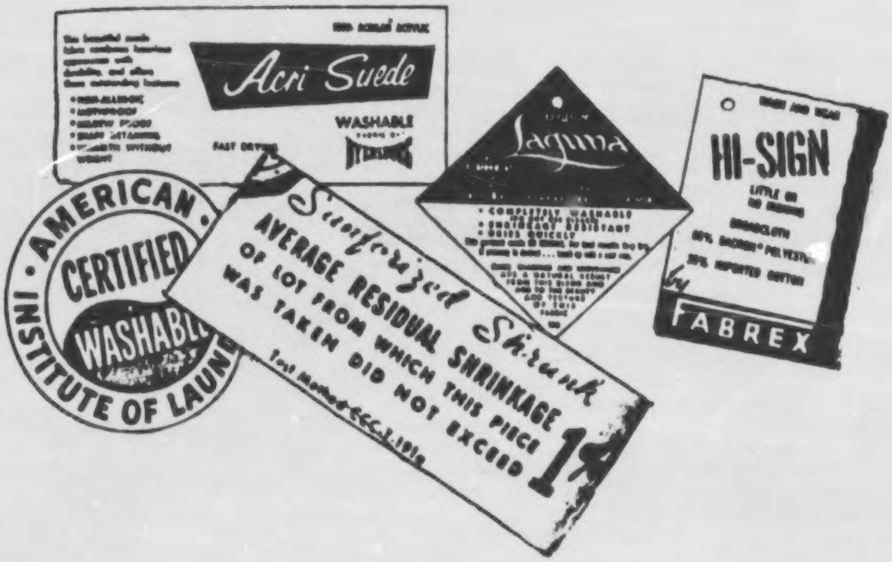
LEARNING ACTIVITIES

In order to meet the objective you ought to be able to perform the following:

1. Explain the purpose or reasons for the different kinds of labels used on garments made in the needletrade industry. Explain why they are needed or desired. Tell which ones are required by law and why.

2. Make a collection of labels or pictures of labels used in the garment industry. Bring at least three (3) of the labels to show and explain to your class. (Your teacher may make special assignments to students in the class to show and explain different kinds of labels.)

3. Tell how labels are used to keep track of garment pieces being processed through the garment factory so that the finished garment will be made of matched pieces (same color, size, design, etc.) Tell how and why labels or tickets are used to keep track of the type and amount of work done by an employee.

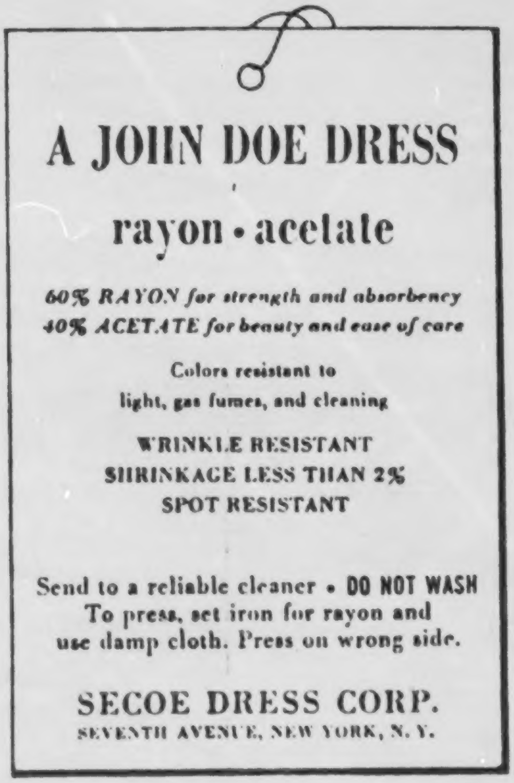

Acri Suede
WASHABLE
FAST DRYING
Laguna
HI-SIGN
FABREX
AMERICAN INSTITUTE OF LAUN
CERTIFIED
WASHABLE
Sanforized Shrunk
AVERAGE RESIDUAL SHRINKAGE OF LOT FROM WHICH THIS PIECE WAS TAKEN DID NOT EXCEED 1%
Test Method CCC-T-191b

LEARNING ACTIVITY #1. Explain the purpose or reasons for the different kinds of labels used on garments made in the needletrade industry. Explain why they are needed or desired. Tell which ones are required by law and why.

Labels are used to deliver useful information to the consumer. Good labels are very informative and should tell you almost everything you might need to know about a textile fabric or a product made from it. They can aid you when purchasing or caring for your clothes and give you some ideas of expected quality and performance. Some labels are required by law and state what standards and specifications have been met.

Make a list of many different types of labels and explain their purpose or reasons why they are used. Tell how labels help the consumer and show how some may be more helpful than others.

Explain some of the labels that are required by law and tell why they are required.



A JOHN DOE DRESS

rayon • acetate

60% RAYON for strength and absorbency
40% ACETATE for beauty and ease of care

Colors resistant to
light, gas fumes, and cleaning

WRINKLE RESISTANT
SHRINKAGE LESS THAN 2%
SPOT RESISTANT

Send to a reliable cleaner • **DO NOT WASH**
To press, set iron for rayon and
use damp cloth. Press on wrong side.

SECOE DRESS CORP.
SEVENTH AVENUE, NEW YORK, N. Y.

LEARNING ACTIVITY #2. Make a collection of labels or pictures of labels used in the garment industry. Bring at least three (3) of the labels to show and explain to your class. (Your teacher may make special assignments to students in the class to show and explain different kinds of labels.)

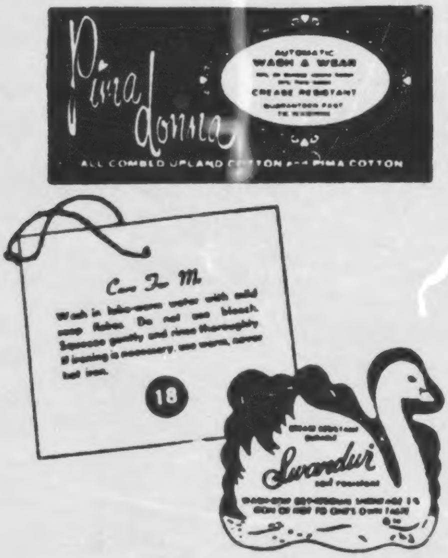
Labels come in many sizes and shapes and types. They are made of a variety of materials. Labels are put on during or after the manufacturing process and are attached by many methods and put in many different places.

Look through the clothing and products you have in your home. Look at labels when you are shopping.

Collect together some samples of labels or clothes with labels in them. Pictures or sketches could be made of labels found in references or on clothes in the stores.

Your teacher may make some assignments to find different kinds of labels. Each student would show and explain different labels to the class.

Bring at least three (3) labels to class to show and explain.


Pima donna
AUTOMATIC
WASH & WEAR
CREASE RESISTANT
ALL COMBED UPLAND COTTON
PIMA COTTON
Care For Me
18
Swandui

COMPETENCY #8. Show the step-by-step processing of a piece of fabric from the time it enters the garment plant until it leaves as a finished garment.

LEARNING ACTIVITIES

In order to meet the objective you should be able to perform the following:

1. Explain the difference between a "process flow" system and a "progressive bundle" system.

2. Make an operations flow chart taking a garment through the steps needed to make it from construction start to finish using either the process flow system or the progressive bundle system.

3. Draw a sample floor plan showing work areas and individual work stations planned for smooth flow of work from area to area and operator to operator.

LEARNING ACTIVITY #1. Explain the difference between a "process flow" system and a "progressive bundle" system.

Production in a garment plant must be conducted in a continuous smooth and efficient manner. All employees must be kept busy and be arranged in an orderly work pattern. Different products may require different factory layouts in order to process and organize the work efficiently. The work may pass from worker to worker by conveyor belts or be picked up and delivered to workers by floor people.

There are two basic step-by-step process used to form a pattern or system of organization.

(1) Process flow system
(2) Progressive bundle system

There may also be variations of these layouts and custom tailoring factories may even arrange their work in another pattern since most of their work is done on an individual basis.

Explain what each of these two basic systems are and tell how they work. What is the difference between them? Why are they efficient?

LEARNING ACTIVITY #2. Make an operations flow chart taking a garment through the steps needed to make it from construction start to finish using either the process flow system or the progressive bundle system.

An operations flow chart is a chart showing the step-by-step pattern or path the garment travels throughout the construction process. It shows what step is being done, what kind of machine or process is being used and which operator is doing the work.

Make an operations flow chart using either the process flow system or the progressive bundle system. Chart a garment step-by-step through the construction stages. A sample chart is provided with this activity to show you how it is done. Some of the companies in the Reference List have "Operations Bulletins" which show the process steps for different products. Sometimes a local garment plant might be of help to you. Other sample charts can also be found in Union Special's "Guidelines for Career/Vocational Sewing Facilities" brochure.

You may select any garment you wish to chart but do not use one already shown on the sample charts.

SAMPLE CHART FOR OBJECTIVE #8, LEARNING ACTIVITY #2

OPERATIONS FLOW CHART: STYLE: C 1031 A DESCRIPTION: SLEEVELESS POLO

Oper. #	Station Or Machines Used	Operation (Construction Steps)
1	fuser	pellon to collar
2	single needle	join top and bottom collar
3	hand	clip and turn collar
4	single needle	topstitch collar (edge stitch)
5		void
6		void
7	fuser	pellon to placket
8	overlock	edge placket
9		void
10		void
11	double needle	attach placket
12	single needle	close bottom placket
13	single needle	topstitch placket
14	overlock	join shoulders w/¼" tape, turn facings
15	overlock	join side seams
16	overlock	join and attach armhole trim - edge
		bottom placket
17	single needle	attach collar, insert label, top
		stitch collar band
18	buttonholer	sew buttonholes (4)
19	button tacker	tack buttons (4)
20	blindstitch	hem bottom
21	hand	inspect and button
22	hand	tag
23	body press	press
24	hand	fold and bag

(Progressive Bundle System)

LEARNING ACTIVITY #3. Draw a sample floor plan showing work areas and individual work stations planned for smooth flow of work from area to area and operator to operator.

A floor plan for a garment plant shows the layout for the areas of operation and the placement of individual work stations and machines.

Observe an actual factory (or factories) and look at factory layouts in your reference materials.

Design and draw a sample floor plan for a garment plant. Keep in mind which organizational system you are using--process flow or progressive bundle system and label it as such. Specify the areas of work. Draw and label the machines or work stations. Work towards a smooth flow or work.

(This chart does not need to be done to scale.)

COMPETENCY #9. Give examples of methods used in the needletrades to help:
(1) improve speed and efficiency of workers,
(2) improve quality and workmanship of products,
(3) reduce manufacturing costs and increase profits.

LEARNING ACTIVITIES

In order to meet the objective you should be able to perform the following:

1. Make a list of ways a worker in the needletrades can work faster and more efficiently. Make a list of things the company could do.

2. List ways an employer and/or employee can improve quality and workmanship of the products being made in a garment plant.

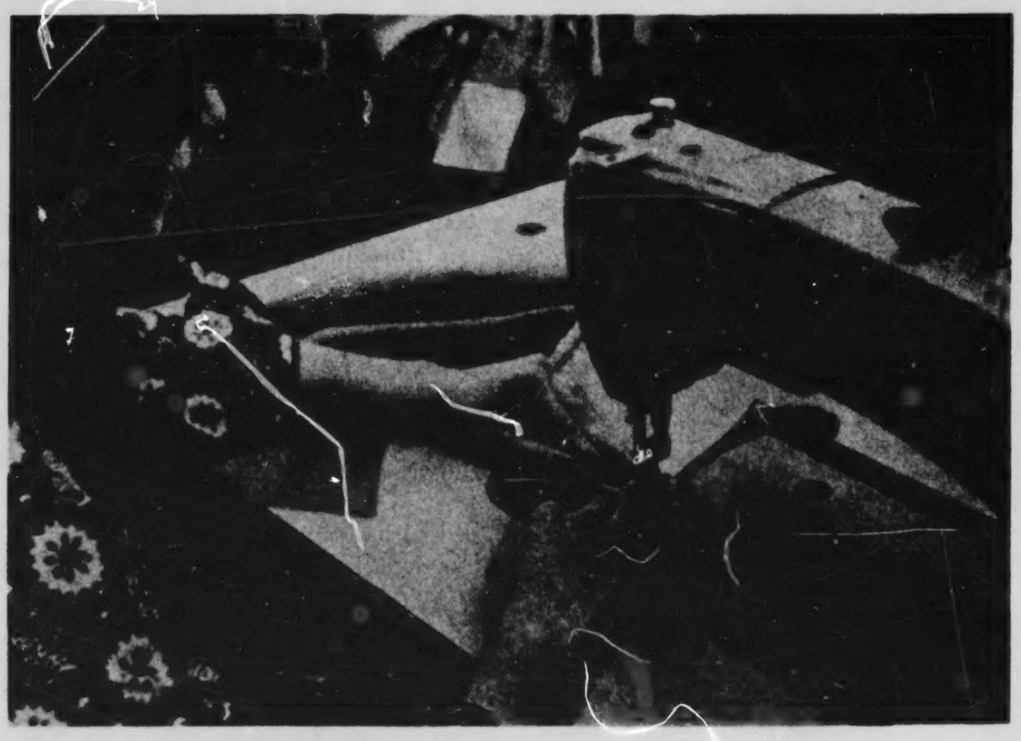
3. Explain how speed and efficiency versus quality of work affect the costs and profits in a needletrade company. List some other ways costs can be held down and profits increased. Are there any new trends, innovations or ideas that you have seen or heard about?

4. Bring to class examples of a garment you feel was made well and one which was poor quality. Discuss with the class what you base your conclusions on and tell what might have been done to make them better.

LEARNING ACTIVITY #1. Make a list of ways a worker in the needletrades can work faster and more efficiently. Make a list of things the company could do.

A skilled worker who can work fast and efficiently is an asset to the company. An employer comes out ahead by providing a comfortable environment and facilities conducive to speed and efficiency. Sometimes a company will employ an industrial engineer, someone who studies the company procedures and facilities and also the employees at work. An engineer would analyze the way work is done. He would then advise and develop better work procedures.

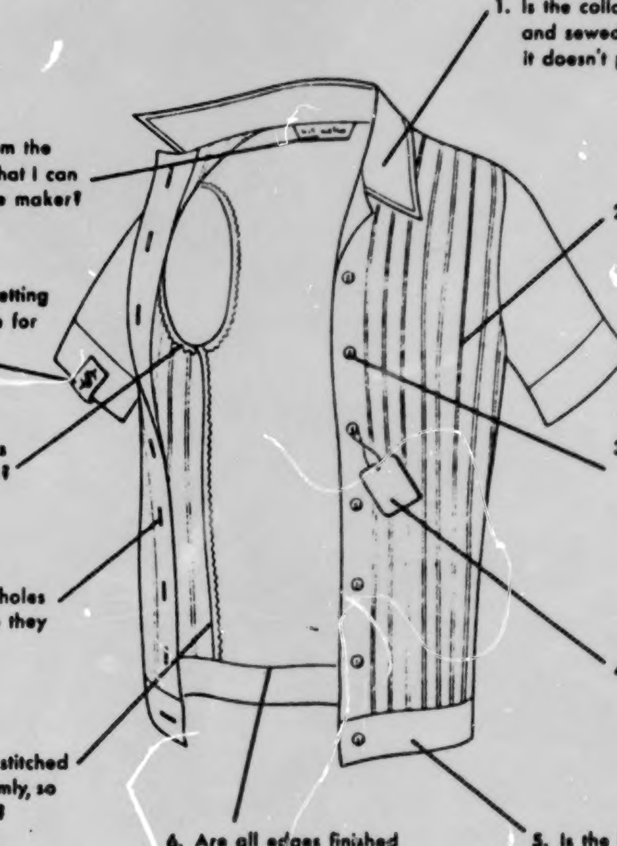
List some ways a worker in the needletrades could do to speed up his/her working procedures toward greater efficiency. What are some things the company could do to help the worker or things they might provide in the way of more comfortable facilities.



LEARNING ACTIVITY #2. List ways an employer and/or employee may improve quality and workmanship of the products being made in a garment plant.

A company builds its reputation and growth on high standards of quality and workmanship. Poor workmanship or inferior quality loses sales and customers. Much of the shoddy work would have to be repaired or sold as seconds, resulting in a loss of profits.

List some ways an employee can work towards improving the quality of work he/she produces. What are some things the employer can do to encourage and help the worker to put out high quality products?



1. Is the collar evenly shaped, and sewed on smoothly, so it doesn't pull or pucker?

2. Are details finely done and not too fussy to be ironed easily?

3. Are the buttons of good quality and firmly sewed on?

4. Does the tag show it is washable and won't fade or shrink?

5. Is the blouse of ample length to assure good fit and freedom of movement?

6. Are all edges finished neatly and stitched down smoothly?

7. Are all seams stitched closely and firmly, so they won't rip?

8. Are the buttonholes firmly made so they won't fray?

9. Are the sleeves properly set in?

10. Am I really getting the best value for my money?

11. Do I know from the brand name that I can depend on the maker?

LEARNING ACTIVITY #3. Explain how speed and efficiency versus quality of work affect the costs and profits in a needletrade company. List some other ways costs can be held down and profits increased. Are there any new trends, innovations or ideas that you have seen or heard about?

The quality of the product and the speed and efficiency with which it is made have a direct relationship to the amount of profit and loss in a needletrade business.

Think of some ways speed and efficiency might affect the quality of the work produced or vice versa. Explain how these factors affect each other.

There are many ways a company or employee can help keep costs down and in turn help keep profits up. Make a list of some of these ways.

People who are working within the industry sometimes recognize and invent new methods or pieces of equipment which would save money or improve efficiency in the production process. Because these ideas save the company money, sometimes the employee is even given a bonus for suggesting it. Perhaps you have read about some of these new ideas, trends or some of the new equipment that is being developed. If so, write some of them down on your lists.

LEARNING ACTIVITY #4. Bring to class examples of a garment you feel was made well and one which was poor quality. Discuss with the class what you base your conclusions on and tell what might have been done to make them better.

Actually wearing commercially made clothing gives you a first hand experience with the factors affecting quality and workmanship. You can see if the garment is holding up to standards you might expect from it or up to the standards referred to on labels. You might even be making judgements and setting your own standards of quality which you will look for when making future purchases or when making your own clothes.

Select some clothing from your own wardrobe and examine and judge the workmanship. What are the things you like? What are the things you don't like? How does the performance and quality compare to the price you paid?

Bring a garment you think is well made and one you think is poorly made to class. Discuss and examine these products with the other students and talk about the things you feel affected the quality and workmanship of these products. What are some things you and your class think might have been done to improve them? What factor does pricing play in the workmanship of these products? Will you have a different attitude about the products you buy next time?

COMPETENCY #10. Describe employment opportunities available in the needletrades including: job availabilities, qualifications and experience needed, training offered, working conditions and benefits, wages and advancement opportunities.

LEARNING ACTIVITIES

In order to meet the objective you should be able to perform the following:

1. List the names of needletrade industries located in your area or state and identify the type of product they manufacture.
2. Describe what qualifications or experience you might need to work in the needletrades.
3. Investigate and report on the education and training programs available in your state.
4. Explain the general wage scales and benefits, and advancement opportunities offered by needletrade companies in your state.
5. Make a list of advantages and benefits of working in a needletrade industry. Make a list of disadvantages of working in a needletrade industry.

SKILLS + SPEED + TRAINING = MONEY

LEARNING ACTIVITY #1. List the names of needletrade industries located in your area or state and identify the type of product they manufacture. You may wish to review the worksheet provided in Competency #3, Learning Activity #3. If you have already completed this form, you have fulfilled the requirements for this learning activity.

The needletrade industry is an important source of employment. It has plants located in almost every state in the country, including your state.

Make a list of the needletrade industries located in your area. State where they are located and identify what type or kinds of products they manufacture.

Example: Pyke Manufacturing Co. - Ogden, Utah - Men's Wear

LEARNING ACTIVITY #2. Describe what qualifications or experience you might need to work in the needletrades.

The needletrade industry hires both skilled and unskilled workers. Training and experience brings about better jobs and higher pay for those workers who want it.

Describe some of the qualifications you might need to have to work in one of the needletrade companies. Explain how experience in the company or in another one or in a school program can help you.

Here are some questions for you to think about while you are working on this activity:

What characteristics of a person would be suited to different types of work?
What skills or abilities would be needed for different types of work?
How could an employee determine whether she was performing satisfactorily?
How can an employee motivate himself to be a good worker?
What careers are available for young women or men in the field of clothing manufacturing? Manufacturing of other products?

LEARNING ACTIVITY #3. Investigate and report on the education and training programs available in your state.

A good educational background and thorough training in the needletrade occupations can be quite helpful when seeking employment in one of the companies. Employers find it is more expensive to hire and train novices. Even if a company has their own training program, someone who has had prior training and education usually learns new operations more quickly and advances faster.

Explore the kind of training programs available in your state. What kind of programs are taught in the high schools? Are there vocational skills programs with needletrades courses? What kinds of training programs do the industries themselves have or sponsor?

LEARNING ACTIVITY #4. Explain the general wage scales and benefits, and advancement opportunities offered by needletrade companies in your state.

Some companies pay wages and salaries on a piece work basis--the amount of work you actually produce. Some pay an hourly or monthly salary based on your experience and skills.

Give some examples of current wage scales in the garment industry on a national level. Compare and give examples of current wage scales in your state.

Many industrial companies and business offer other benefits besides wages such as insurance, sick leave, vacations, stock in the company, etc. What are some kinds of benefits the needletrade industries offer? What are some of the things these industries do to make working conditions or facilities pleasant and comfortable?

There are many positions within the needletrade industry which cover a large variety of skills and abilities and with them, differences in pay and position.

Report on ways an employee could advance in position, job status, and increased salary. What career opportunities are available? What can an employee hope to gain by beginning at the bottom (job level in the company) and working his way to the top?

LEARNING ACTIVITY #5. Make a list of advantages and benefits of working in a needletrade industry. Make a list of disadvantages of working in a needletrade industry.

There are many advantages to working in the needletrades. Some of them might be using sewing skills you have previously learned, earning an income or making friends with interests similar to yours. If you think for a while and observe the work in the factories, you will be able to list more advantages and benefits.

Almost every job has its disadvantages. Some jobs are tedious or have a low pay scale. Try to think of some disadvantages of working at different jobs in the needletrades and make a list of them.

COMPETENCY #11. Relate some personal benefits which you might have gained from having a better understanding and knowledge of the needletrade industry.

LEARNING ACTIVITIES

In order to meet the objective you should be able to perform the following:

1. Make a list of ways this module will benefit you personally. Include areas of employment, consumer, social and domestic benefits that might be useful to you personally.

LEARNING ACTIVITY #1. Make a list of ways this module will benefit you personally. Include areas of employment, consumer, social and domestic benefits that might be useful to you.

You may never go to work in the needletrades but you will probably work somewhere. You may make your own clothing but you will probably not make all of it--you will buy some. You have met people in your studies and have learned some things about working with other people. You may be able to apply some of the things you have learned to your activities at home or elsewhere.

Take a few minutes to think of some of the ways the things you have seen and learned about in this module might benefit you. What are some of the things that will be useful to you in the future or help your life be better?

REFERENCE LIST FOR GUIDANCE

TEXT BOOKS:

Careers in Industrial Sewing. The Educational Committee of the American Apparel Manufacturers Association, Suite 800, 1611 N. Kent St., Arlington, Va 22209.

McDermott, Irene E and Morris, Jeanne L., Opportunities in Clothing. Chas. A. Bennett Co., Inc., Peoria, Illinois. (Chapter 6 - Industrial Sewing)

Oerke, Bess V., Dress. Chas. A. Bennett Co., Inc., Peoria, Illinois. (Chapter 8 - Shopping Wisely and Well)

Pollard, L. Belle, Experiences With Clothing. Ginn & Co., Boston, Mass. (Chapter 7 - Purchasing Ready Made Garments, Page 312, Constructing or Purchasing Clothing, Page 318 - Standards for Children's Clothing.)

Rathbone, Lucy and Tarpley, East, and Ahern, Fashions and Fabrics. Houghton Mifflin Co., Boston, Mass. (Conclusion: Careers in Fashions and Fabrics, P. 492)

Splaver, Sarah, Your Career If You're Not Going To College. Julian Messner, Inc., New York.

Sturm, Mary M. and Grieser, Lyle, Roberts, Guide To Modern Clothing. McGraw-Hill Book Co., Inc., New York. (Chapters 3, 5, 6, and 7)

Todd, Elizabeth and Roberts, Francis, Clothes For Teens. D. C. Heath and Co., Massachusetts. (Chapter 6 - Shopping for Ready Made Garments)

Vanderhoff, Margil, Clothes: Part of Your World. Ginn and Co., Boston, Massachusetts. (Chapter 6 - Learning To Take Care of Your Clothes, and Chapter 9 - Vocations Which Require Clothing and Textiles Knowledge)

REFERENCE BOOKS:

Dictionary of Fashion, (See Library).

Dictionary of Occupational Titles (DOT), U.S. Employment Service, (See a local Job Service Office, Dept. of Employment Security, or a Career Placement Office of your local college).

"Occupations in the Apparel Industry," Occupational Outlook Handbook, U.S. Dept. of Labor, Bureau of Labor Statistics, 1978-79 edition (or latest edition available), (See a local Job Service Office, Dept. of Employment Security, or a Career Placement Office of your college).

INDUSTRIAL RESOURCES:

Singer Manufacturing Co., Industrial Division. (Contact your local Singer Center for address or toll free phone number.)

REFERENCE LIST FOR GUIDANCE - CONTINUED

Union Special Corporation, 478 N. Franklin St., Chicago, Illinois 60610. (Complete package of literature includes-The Mechanization of Sewing, Vocational Career Education, Guidelines for Career/Vocational Sewing Facilities, Technical Training Center Inform., Operations Bulletins, and information about machines, as well as other materials.)

FILMS & SLIDE PRESENTATIONS:

"A Look At Our Industry" Union Special Corp., 470 Franklin Street, Chicago, Illinois 90610. 20 min./16mm film provides an interesting insight into the fascinating apparel industry. Free loan to vocational teachers.

"Image," Produced by Annette J. Fraser and USU Grahpics Dept., Utah State University, Logan, Utah 84322. 20 min./color slide presentation takes you on a tour through several Utah needletrade factories, Utah Trade Tech Needletrade Program and demonstrates machines and workers in operation, teaching and training programs. Rental loan.

Ship'n Shore Educational Films, Ship'n Shore Educational Service, Upland, Chester, Pa. 19015. 20 min./16mm color film takes you through a modern factory and demonstrates how garments are made. Free loan to teachers.

The New World of Apparel, Suite 800, 1611 N. Kent St., Arlington, Va 22209. Rental loan.

OTHER RESOURCES:

American Apparel Manufacturers Association, Suite 800, 1611 N. Kent St., Arlington, Va 22209.

Amalgamated Clothing and Textile Workers' Union, 15 Union Square, New York, N.Y. 10019.

Fur Information and Fashion Council, 101 W. 30th St., New York, N.Y. 10019.

International Ladies' Garment Workers' Union, 1710 Broadway, New York, N.Y. 10019.

National Outerwear and Sportswear Association, Inc., 1 Pennsylvania Plaza, New York, N.Y. 10001.

United Garment Workers of America, Room 1614, 200 Park Ave. South, New York, N.Y. 10003.

Utah Needle Craft Industries Association, c/o Annette J. Fraser, President, UMC 29, Utah State University, Logan, Utah 84322.

Apparel Manufacturers' Association, 1440 Broadway, New York, N.Y. 10018.

National Knitted Outerwear Association, 51 Madison Ave., New York, N.Y. 10010.

Brinkley, Jeanne and Aletti, Ann, Altering Ready-To-Wear Fashions. Chas. A. Bennett Co., Peoria, Illinois. (Chapter 6 - Commerical Methods)

PERFORMANCE CHECKLIST

	Satisfactory	Not Satisfactory
COMPETENCY #1		
Learning Activity #1		
#2		
#3		
#4		
#5		
#6		
COMPETENCY #2		
Learning Activity #1		
#2		
COMPETENCY #3		
Learning Activity #1		
#2		
#3		
#4		
COMPETENCY #4		
Learning Activity #1		
COMPETENCY #5		
Learning Activity #1		
#2		
#3		

PERFORMANCE CHECKLIST - CONTINUED

	Satisfactory	Not Satisfactory
COMPETENCY #6		
Learning Activity #1		
#2		
COMPETENCY #7		
Learning Activity #1		
#2		
#3		
COMPETENCY #8		
Learning Activity #1		
#2		
#3		
COMPETENCY #9		
Learning Activity #1		
#2		
#3		
#4		
COMPETENCY #10		
Learning Activity #1		
#2		
#3		
#4		
#5		
COMPETENCY #11		
Learning Activity #1		

POWER SEWING EQUIPMENT

Part I = Teacher Maintenance

POWER SEWING EQUIPMENT

Part I = Teacher Maintenance

This module pertains to teachers only, inasmuch as teachers are responsible to see that machines are kept in an operable condition. Factory workers do not always maintain their own machine...this is often done by a maintenance crew. Upon completing this module the teacher should have the basic information to:

1. Perform basic oiling and operational needs of the following machines: (1) straight stitch machine (single needle lockstitch or chain stitch); (2) serger; (3) the blind stitch hemmer.
2. Supervise correction of a variety of simple problems with threading and tension.

COMPETENCY #1 Perform basic oiling and operational needs of the following machines:

1. Straight Stitch Machine (single needle lockstitch or chain stitch)
2. Serger
3. Blind Stitch Hemmer

Cleaning

Each machine should be cleaned at least once a day. A brush is provided to brush around the hook and the top of the machine. The oil pan should be wiped out and the top of the table cleaned so that you may begin work promptly the next morning.

Oiling

Under extreme heavy use, as in factory simulation, machines should be oiled once a day at 12:00 Noon. The hook of the machine must be oiled four times a day...at 8:00 a.m., 10:00 a.m., 12:00 Noon, and 3:00 p.m.

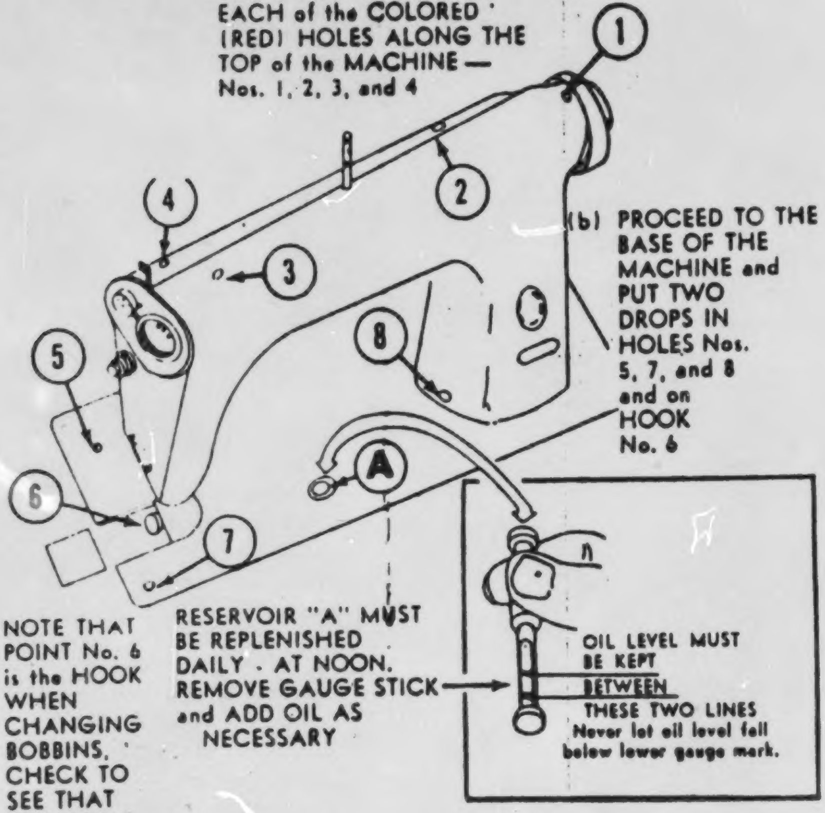
THE HOOK OF THE MACHINE SHOULD NEVER BE OILED WITH THE BOBBIN AND BOBBIN CASE IN THE MACHINE.

The bobbin and bobbin case should be removed and the machine oiled in the designated holes and points. The hook shaft should be wiped before replacing the bobbin case. Scrap material may be sewed on the machine until the material and thread are clean and free of oil.

OILING INSTRUCTIONS FOR STRAIGHT STITCH (SINGER 400W)

Needle Bar At Highest Point Before Oiling.

BEGIN AT HANDWHEEL, POINT No. 1. AND PUT ONE DROP of OIL IN EACH of the COLORED (RED) HOLES ALONG THE TOP of the MACHINE — Nos. 1, 2, 3, and 4



(b) PROCEED TO THE BASE OF THE MACHINE and PUT TWO DROPS IN HOLES Nos. 5, 7, and 8 and on HOOK No. 6

NOTE THAT POINT No. 6 is the HOOK WHEN CHANGING BOBBINS, CHECK TO SEE THAT HOOK HAS ENOUGH OIL

RESERVOIR "A" MUST BE REPLENISHED DAILY - AT NOON. REMOVE GAUGE STICK and ADD OIL AS NECESSARY

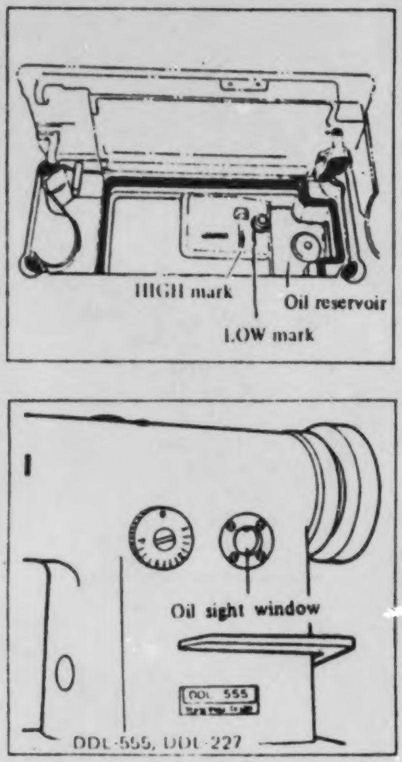
OIL LEVEL MUST BE KEPT BETWEEN THESE TWO LINES
Never let oil level fall below lower gauge mark.

WIPE ALL EXCESS OIL OFF MACHINE AND WORK PLACE

Diagram A

OILING INSTRUCTIONS FOR STRAIGHT STITCH WITH OIL RESERVOIR (JUKI)

LUBRICATION



Before operating the machine

1. Fill up the oil reservoir with JUKI New Defrix Oil No. 1 up to the mark "HIGH."
2. Watch and see that the oil level does not go below the "LOW" mark.
3. Under normal conditions, when the machine is run after it is filled up with oil, the oil will spurt against the oil sight window.

(CAUTION)

1) When the oil gets dirty, change it with new, fresh oil. If the oil plug of the reservoir is removed, oil will come out.
2) When the machine is to be run for a great length of time, run the machine at 3,000-3,500 s.p.m. for about 10 minutes and allow the machine to get well-oiled.
3) When the machine is to be run constantly at less than 3,500 s.p.m. adjust so that the oil supply to various parts be increased.

Diagram B

1. Adjusting the oil supply to the face part

When adjusting the oil supply to the thread take-up and needle bar crank components, remove the face plate and the oil preventing plate and adjust by turning the oil adjusting pin at the tip of the main shaft.

1. When the red mark of the adjusting pin comes near the crank, the oil amount gets less.
2. When the red mark comes to the opposite side of the crank, the oil amount gets more.

(CAUTION)

The oil amount does not change immediately after the adjustment, so when adjusting, have this in mind.

2. The oil adjusting pin

1. The oil adjusting pin has a carved groove as shown in the figure. When this groove and the oil hole of the main shaft come together, the oil amount gets more.
2. When the groove is at the opposite side of the oil hole, the oil amount gets less.
3. The red mark on the oil adjuster shows the side without the carved groove.

3. Adjusting the oil supply to the hook components

The supply of oil to the hook components can be adjusted by the oil regulating valve on the hook shaft.

1. If this valve is turned toward (+)side(right), the oil amount gets more.
2. If this valve is turned to (-) side(left), the amount gets less.

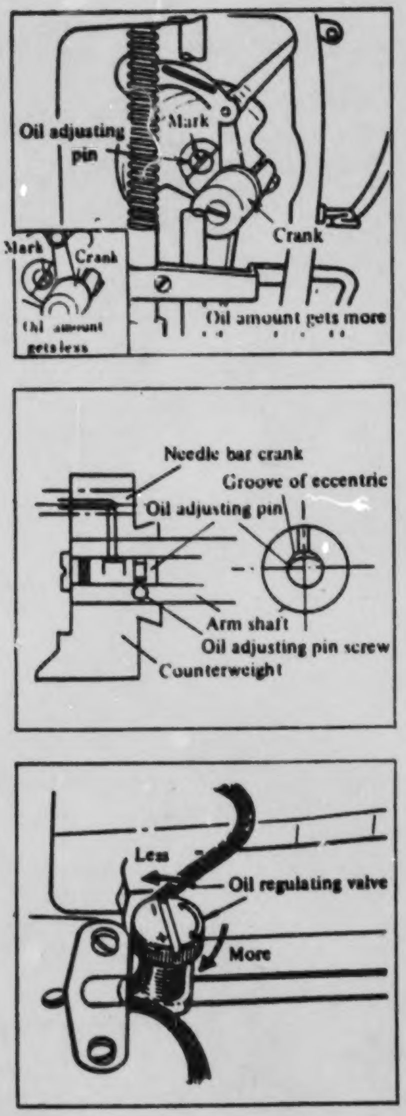

Oil adjusting pin
Mark
Crank
Mark
Crank
Oil amount gets less
Oil amount gets more
Needle bar crank
Groove of eccentric
Oil adjusting pin
Arm shaft
Oil adjusting pin screw
Counterweight
Less
Oil regulating valve
More

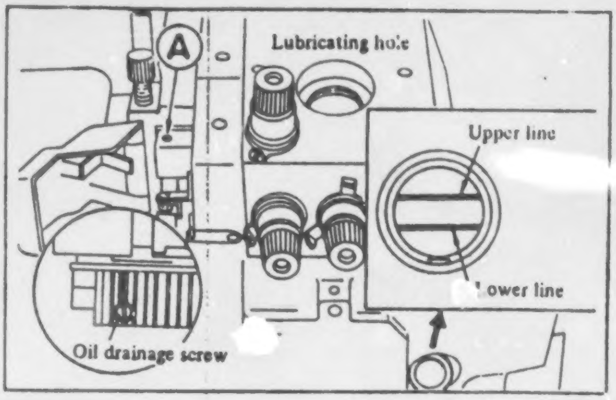
Diagram C

OILING INSTRUCTIONS FOR SERGER (JUKI)

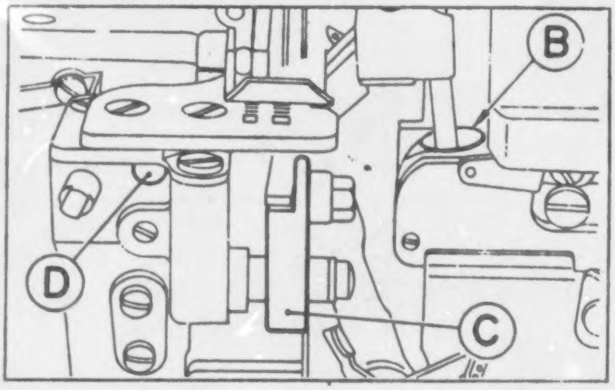
1. CAUTIONS ON OPERATION

1. Do not, under any circumstances, start the machine before filling up the oil reservoir.
2. The rotational direction of the machine is clockwise as viewed from the pulley side. Do not run the machine in the reverse direction because if you do, the lubrication pump will not function and will invite scorching of the machine.

2. LUBRICATION AND DRAINAGE



1. Use JUKI Defrix Oil No. 2 for lubrication.
2. Remove the oil cover, attach the funnel in the accessories box and pour in JUKI Defrix Oil No. 2 until the top of the oil float indicator reaches the top line of the oil sight window. After filling up, cover up the oil cover.
3. Inspect the oil sight window every day before operating the machine. If the oil level falls below the lower line, fill it up to the upper line.
4. To drain out the oil, remove the oil drainage screw.



(CAUTION)

1. When the machine is to be operated for the first time or when it was idle for a long period of time, be sure to oil the top of the needle clamp guide bar (A) and the top part of the upper looper guide (B) before starting the sewing operation.
2. As the lower knife slide shaft (C) moves slightly during the running of the machine, apply a small amount of oil to the oiling hole (D) at the upper part of the lower knife installing body.
3. If any oil other than designated oil is used, it might invite scorching or oil leakage. Be sure to use only the designated JUKI New Defrix Oil No. 2.

Diagram D

OILING INSTRUCTIONS FOR HEMMER (US BLINDSTITCH)

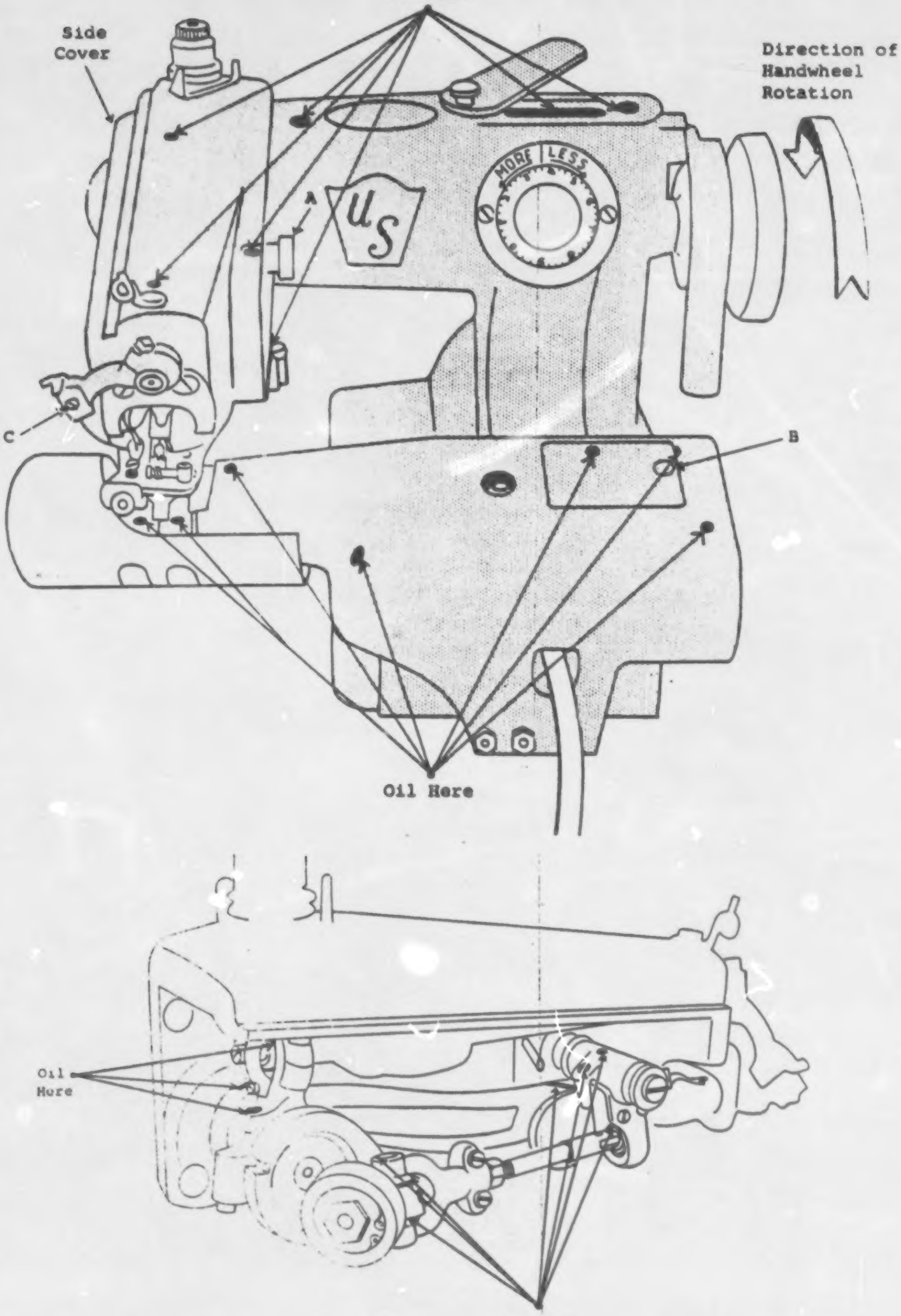

Oil Here
Side Cover
Direction of Handwheel Rotation
MORE
LESS
US
A
C
B
Oil Here
Oil Here
Oil Here

Diagram E

COMPETENCY #2. Supervise the correction of a variety of simple problems with threading and tension.

1. Improper threading may be due to:
    a. Thread behind discs instead of between them.
    b. Bobbin in backwards.
    c. Loosely wound bobbin with no tension.

2. Tension Disc Adjustment (See Diagram).

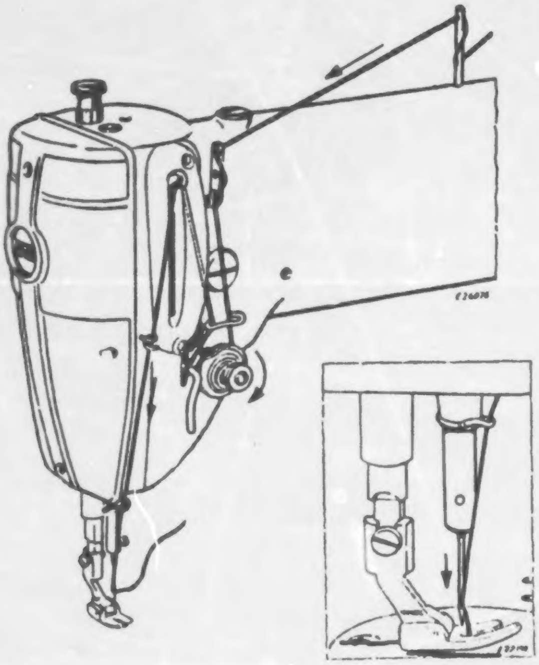
3. Bobbin Tension (See Diagram).

Any other problems are major and may require a service man.

THREADING OF A STRAIGHT STITCH (SINGLE NEEDLE LOCKSTITCH)

BE SURE

that the needle is threaded from the proper direction. Always thread the needle from the side of the needle with the long groove. The long groove of the needle is placed in the direction of the last thread guide. Machine manufacturers furnish threading diagrams for all machines.



Upper Threading

Threading the Needle

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Diagram F

The above threading instructions and illustrations are intended only as a general guide. Remember, each machine has a definite threading procedure, so it is necessary to find the right procedure before you thread any machine. Skipped stitches and broken thread can easily be caused by faulty threading, so always check your threading if these troubles appear.

Lockstitch machines always have a bottom thread that comes from the bobbin. Good threading procedure would include checking the bobbin to see that the thread is unreeling properly.

If the top tension is too loose, the seam has loops on the bottom. If the top tension is correct, the seam is smooth and the same on both sides. A well-trained operator will recognize the need for the adjustment of the tension and will usually accomplish this adjustment without outside assistance.

Remember, to change the tension, turn the adjusting nut on the tension assembly. To make the tension tighter, turn to the right (clockwise). To make the tension looser, turn to the left (counter-clockwise).

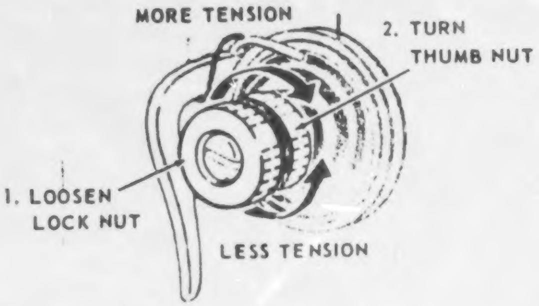


Diagram G

To change the tension on the bobbin case, turn the tension (large) screw on the bobbin case. Turn to the right (clockwise) to make the tension tighter. Turn to the left (counter-clockwise) to make the tension looser.

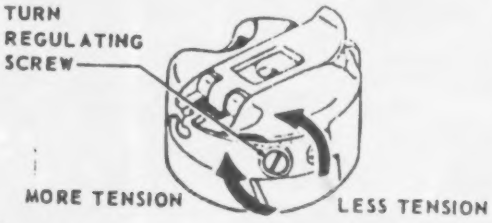
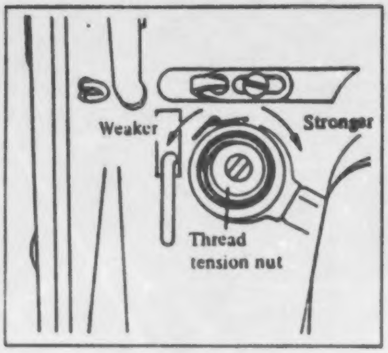
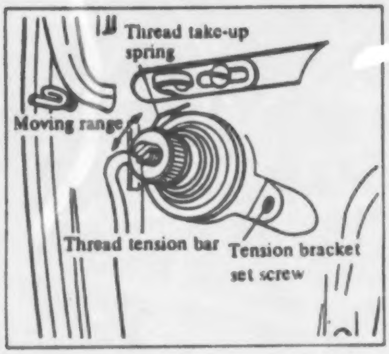


Diagram H

Chainstitch machines do not have a bobbin, but if the machine has a threaded looper, you must follow the instructions to see that this thread is fed properly into the eye of the looper. Many machines with threaded loopers require special tools because of the inaccessibility of some threading points.

THE TENSION DISC ADJUSTMENT


Weaker
Stronger
Thread tension nut


Thread take-up spring
Moving range
Thread tension bar
Tension bracket set screw

ADJUSTING THE NEEDLE THREAD TENSION
Ideal stitches are formed when the needle thread and the bobbin thread are perfectly interlocked at the center of the cloth. The tension of the needle thread is adjusted by the thread tension nut.

1. Turn it to right to make the tension stronger and to the left to make it weaker.

THREAD TAKE-UP SPRING

*To change the moving range of the thread tension spring:

1. Loosen the screw of the thread tension bracket.
2. Rotate the thread tension bar.

*To change the strength of the thread take-up spring.

1. Loosen the set screw, remove the thread tension bar.
2. Loosen the thread tension bar set screw and adjust.
3. When the thread tension bar is turned to right, the spring will get stronger and if turned to left, it will get weaker.

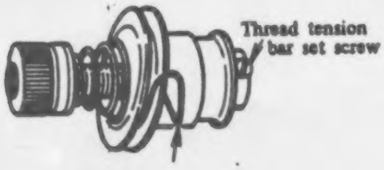
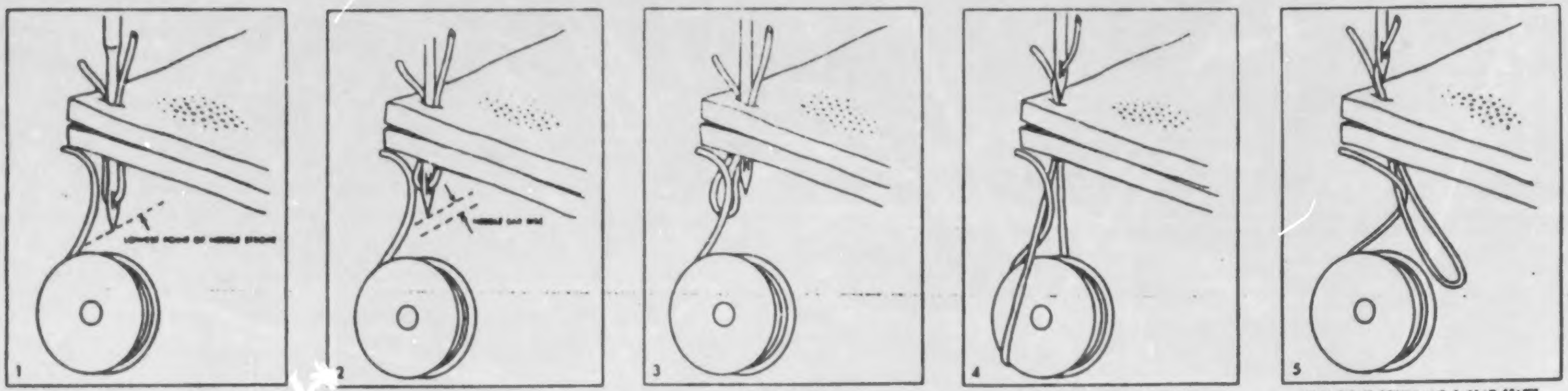

Thread tension bar set screw

Diagram I

FORMATION OF A LOCK STITCH — (FEDERAL STITCH TYPE 301)


1
LOWEST POINT OF NEEDLE STROKE
2
NEEDLE ON RISE
3
4
5

NEEDLE IS AT LOWEST POINT OF STROKE

NEEDLE RISES TO FORM LOOP

LOOP IS ENLARGED

LOOP IS PASSED AROUND BOBBIN

LOOP CLEARS BOBBIN AND TAKE-UP STARTS TO DRAW THREAD UP

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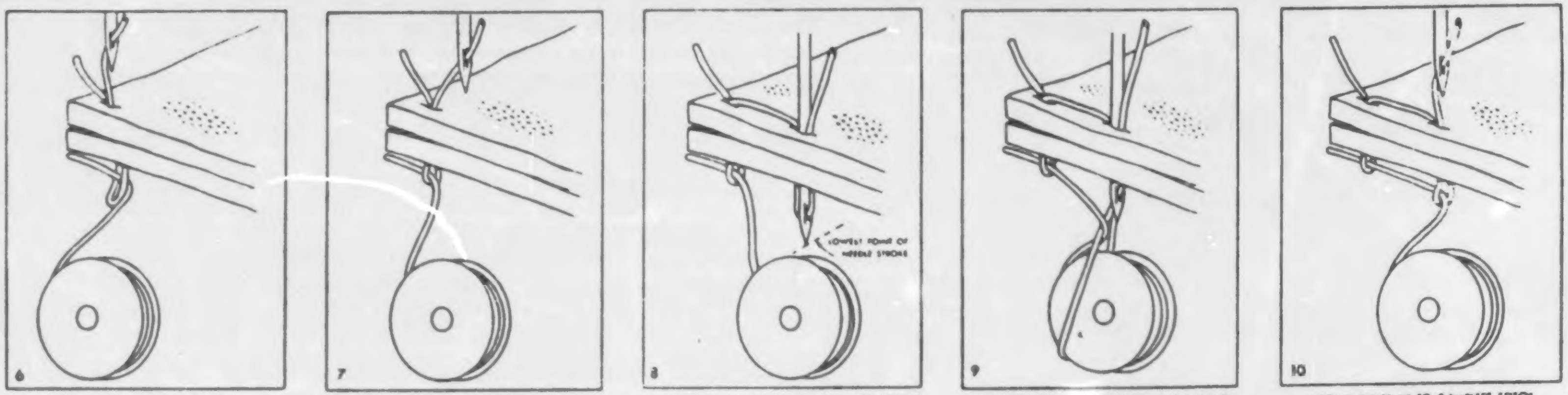

6
7
8
LOWEST POINT OF NEEDLE STROKE
9
10

TAKE UP DRAWS LOOP CLOSED

FEED MOVES MATERIAL TO NEXT STITCH POSITION

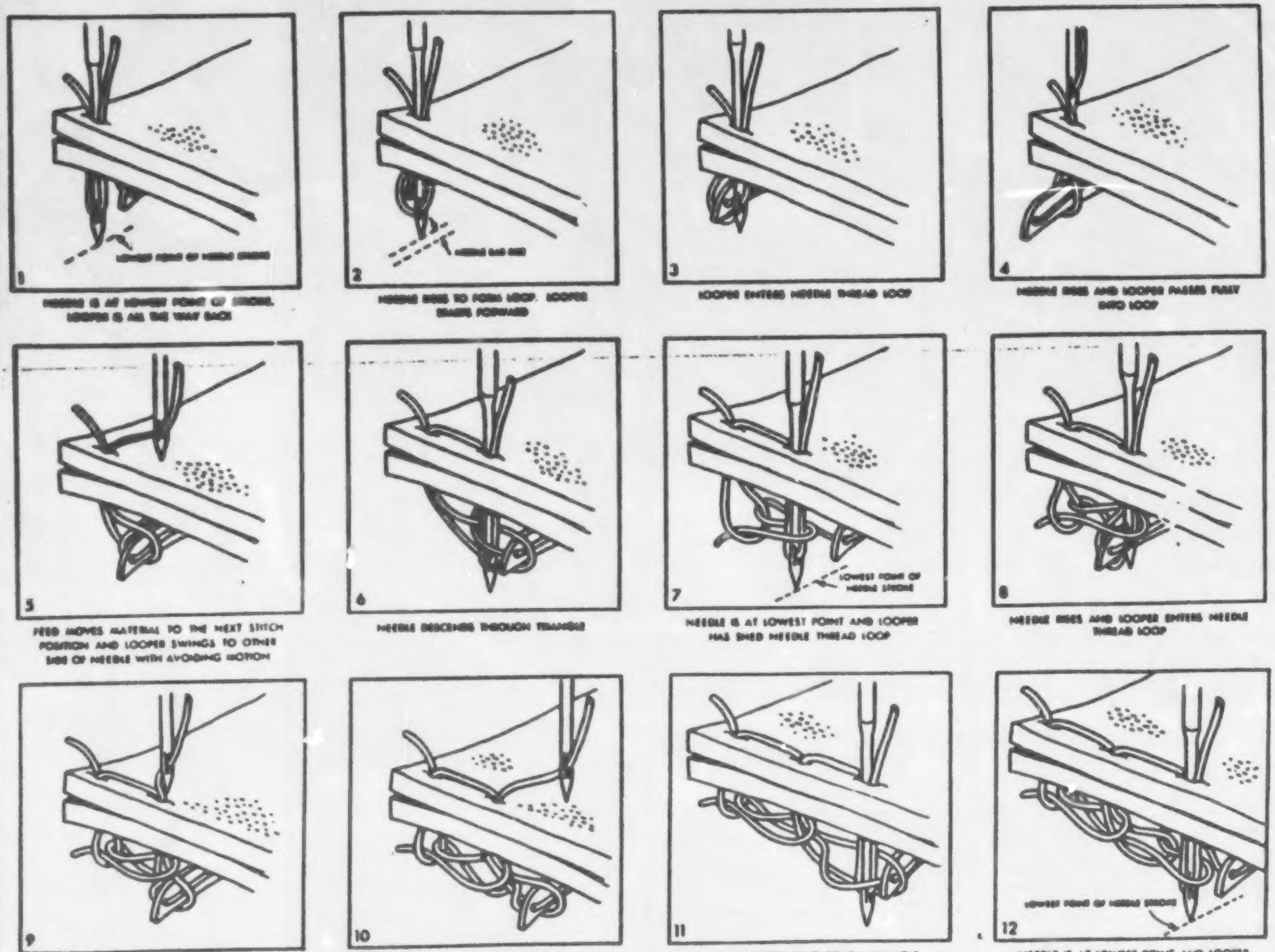
NEEDLE DESCENDS TO LOWEST POINT OF STROKE

NEW LOOP HAS BEEN FORMED AND IS PASSING AROUND BOBBIN

LOOP IS PULLED UP TO COMPLETE STITCH

Diagram J

FORMATION OF A TWO THREAD CHAIN STITCH — (FEDERAL STITCH TYPE 401)


LOWEST POINT OF NEEDLE STROKE
LOWEST POINT OF NEEDLE STROKE
LOWEST POINT OF NEEDLE STROKE

1 NEEDLE IS AT LOWEST POINT OF STROKE. LOOPER IS ALL THE WAY BACK

2 NEEDLE RISES TO FORM LOOP. LOOPER STARTS FORWARD

3 LOOPER ENTERS NEEDLE THREAD LOOP

4 NEEDLE RISES AND LOOPER PASSES FULLY INTO LOOP

5 FEED MOVES MATERIAL TO THE NEXT STITCH POSITION AND LOOPER SWINGS TO OTHER SIDE OF NEEDLE WITH AVOIDING MOTION

6 NEEDLE DESCENDS THROUGH TRIANGLE

7 NEEDLE IS AT LOWEST POINT AND LOOPER HAS SHED NEEDLE THREAD LOOP

8 NEEDLE RISES AND LOOPER ENTERS NEEDLE THREAD LOOP

9 NEEDLE CONTINUES RISE AND LOOPER STARTS ITS RETURN STROKE

10 FEED MOVES MATERIAL TO THE NEXT STITCH POSITION AND LOOPER SWINGS TO OTHER SIDE OF NEEDLE WITH AVOIDING MOTION

11 NEEDLE DESCENDS THROUGH TRIANGLE

12 NEEDLE IS AT LOWEST POINT AND LOOPER HAS SHED NEEDLE THREAD LOOP

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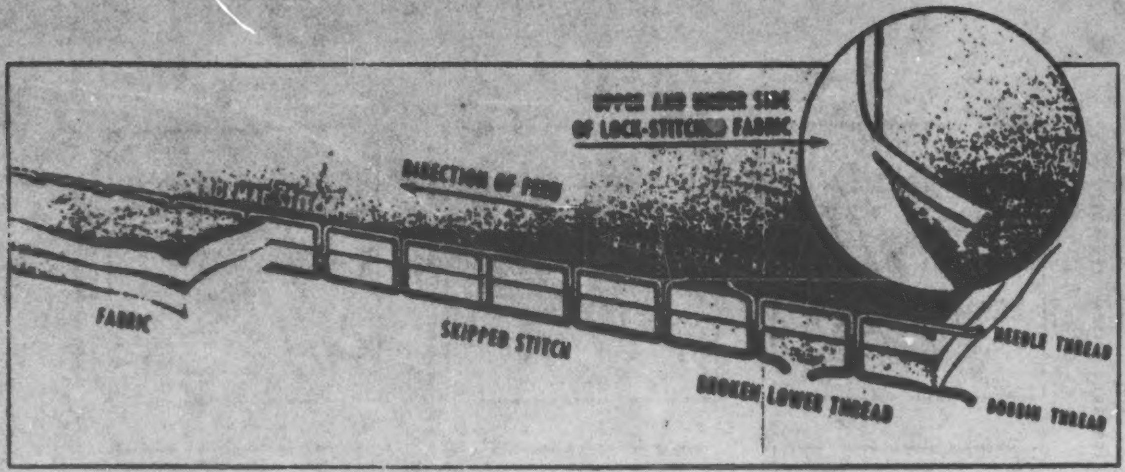
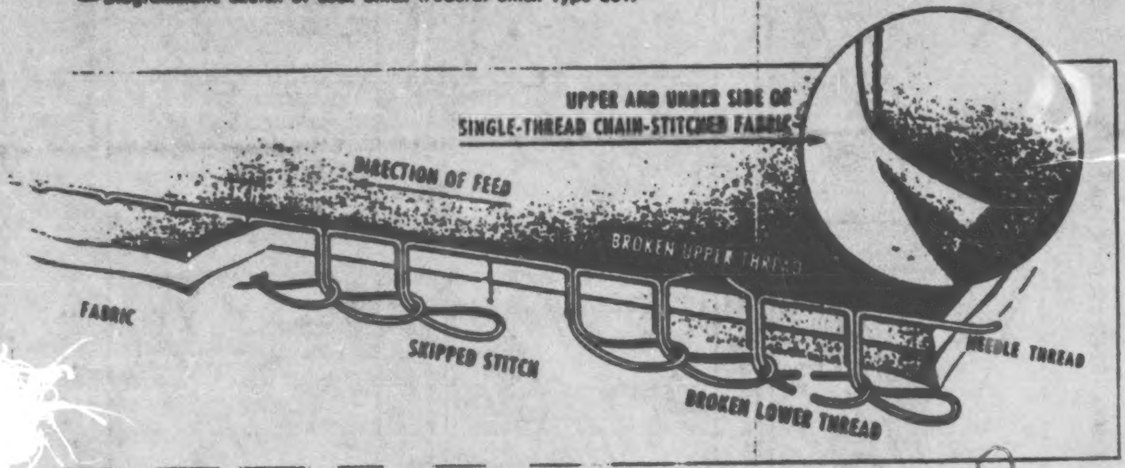
Diagram K

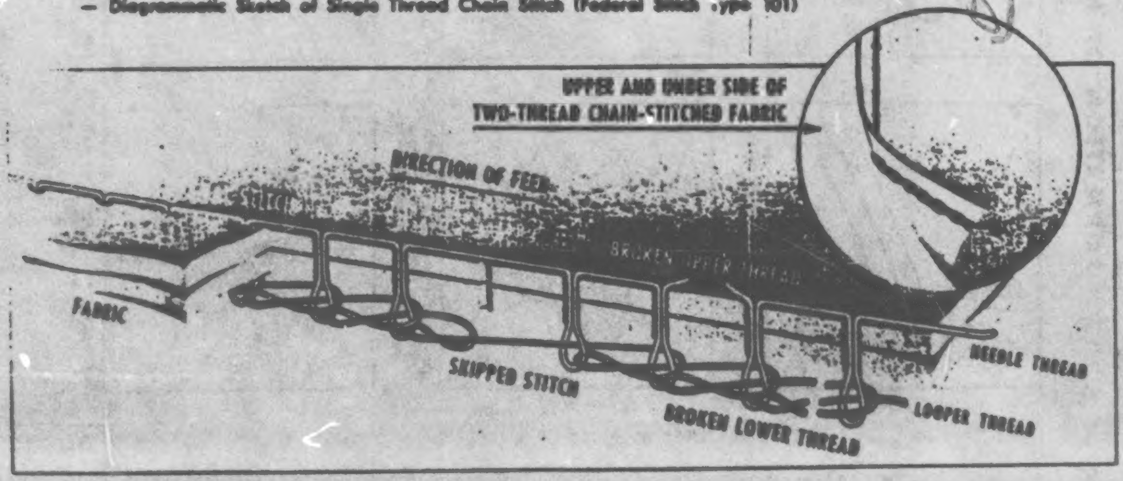
STITCH FORMATIONS AND FAULTS


UPPER AND UNDER SIDE
OF LOCK-STITCHED FABRIC
DIRECTION OF FEED
DOUBLE STITCH
BROKEN UPPER THREAD
FABRIC
SKIPPED STITCH
NEEDLE THREAD
BROKEN LOWER THREAD
BOBBIN THREAD

— Diagrammatic Sketch of Lock Stitch (Federal Stitch Type 301)


UPPER AND UNDER SIDE OF
SINGLE-THREAD CHAIN-STITCHED FABRIC
DIRECTION OF FEED
DOUBLE STITCH
BROKEN UPPER THREAD
FABRIC
SKIPPED STITCH
NEEDLE THREAD
BROKEN LOWER THREAD

— Diagrammatic Sketch of Single Thread Chain Stitch (Federal Stitch Type 101)


UPPER AND UNDER SIDE OF
TWO-THREAD CHAIN-STITCHED FABRIC
DIRECTION OF FEED
DOUBLE STITCH
BROKEN UPPER THREAD
FABRIC
SKIPPED STITCH
NEEDLE THREAD
BROKEN LOWER THREAD
LOOPER THREAD

— Diagrammatic Sketch of Two Thread Chain Stitch (Federal Stitch Type 401)

Diagram L78

The Bobbin Winder

Most lockstitch machines will have a bobbin winder mounted at the extreme right of the machine, and it is adjacent to the machine belt. An extra bobbin is kept on the bobbin winder at all times to be wound and ready as necessary. A second cone of thread is threaded into the guide and tension disc for the winder. The thread is then wrapped around the bobbin, the bobbin mechanism engaged to begin winding as you sew. This way no time is lost in the winding operation. The winding mechanism is as follows:

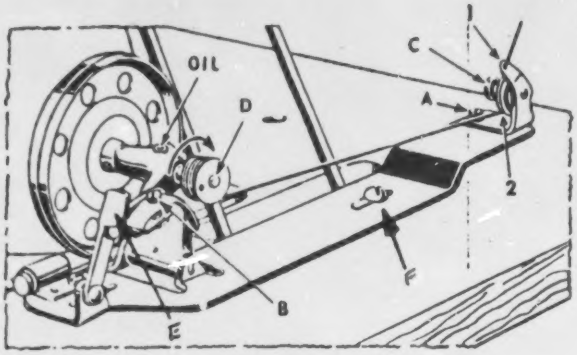


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Diagram M

The bobbin winder should be positioned so that when you push the lever (E) forward, the pulley should touch the belt with enough pressure to cause the bobbin to wind firmly. The set screw (F) can be loosened to position the winder. Once the set screw is in the right position, it is rarely necessary to change. The thread is fed in by first bringing it over the thread guide on top of the spool stand and down through hole No. 1, then around the back and between the tension discs, emerging at point No. 2. The tension should be sufficient to keep the thread taut. There is an adjustment screw (C) on the tension assembly which functions in the same way as any other tension screw. From point No. 2 the thread end is wound around the bobbin a few times in the direction that the bobbin will turn. You are now ready to push the lever (E) forward, and the bobbin will start to wind when the machine is operating. If you find that the thread is not spreading evenly over the spool, loosen screw (A) and turn the tension bracket in either direction until the thread winds evenly over the bobbin.

Screw (B) controls a spring which determines the amount of thread to be wound on the bobbin before it releases the lever and stops winding. An over-wound bobbin will not fit into the bobbin case. Be sure that the spring is adjusted so that it will release the lever at the exact moment when the bobbin is wound to its fullest.

The Bobbin

Every machine must use a specified size bobbin and bobbin case. They are interchangeable within one class of machines, but they are not always interchangeable with other classes of machines.

Since bobbins can carry only a limited amount of thread, wound bobbins must always be on hand to use as quickly as they are needed. Unless the factory provides pre-wound bobbins, each machine is equipped with a bobbin winder that winds new bobbins at the same time you are sewing. In this way you do not lose sewing time in order to wind bobbins. There is a considerable amount of friction between a bobbin and a bobbin case, and it is important that all surfaces be smooth and free from anything that can snag the thread being unreeled. A bobbin or its case can be so worn from friction that it will cause a wobble in assembly. This will lead to thread breakage, and the parts should be replaced immediately.

The bobbin case has several parts which must be examined regularly if your machine is to sew properly. Perhaps the most important part is the tension spring, which controls the tension of the thread as it leaves the bobbin.

When you want to change the bobbin, follow illustrated steps below:

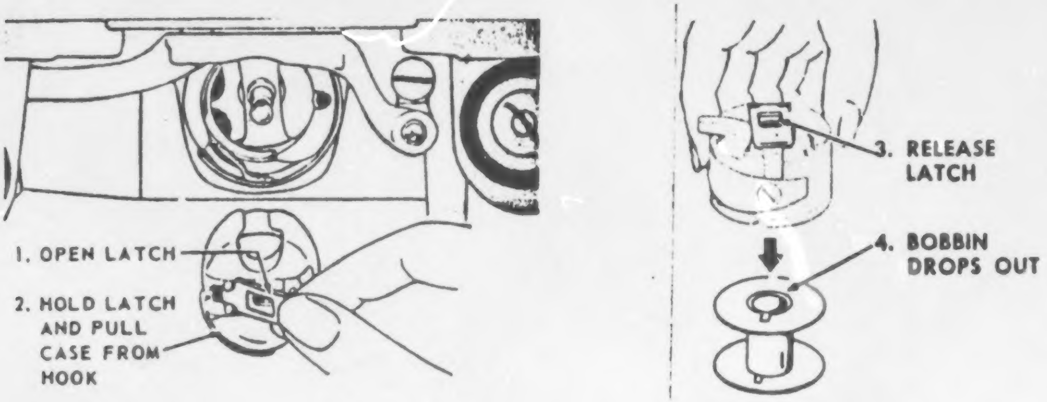


Diagram N

Place the full bobbin (from the winder) in the bobbin case. Pull the thread from the bobbin through the tension slot.

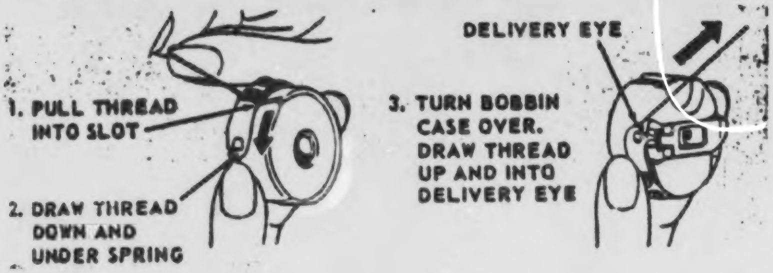

1. PULL THREAD INTO SLOT
2. DRAW THREAD DOWN AND UNDER SPRING
DELIVERY EYE
3. TURN BOBBIN CASE OVER. DRAW THREAD UP AND INTO DELIVERY EYE

Diagram O

The bobbin case must be replaced over the center post in the hook and pressed in until it locks and until an audible "click" is heard. The latch should be closed when inserting the case to feel or hear the click.

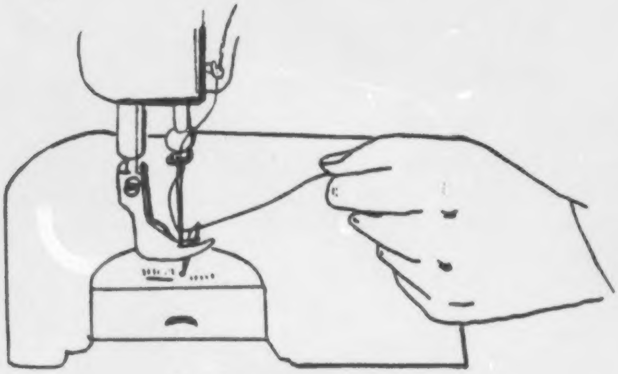
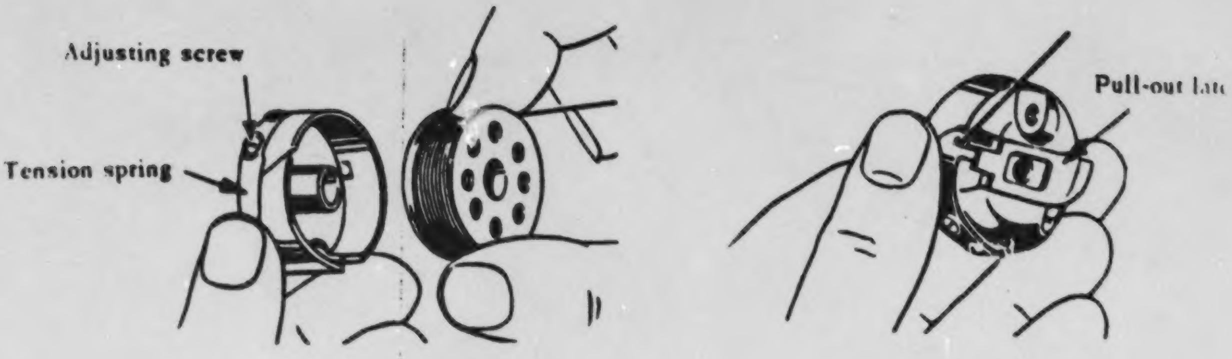


Diagram P

Turn the hand wheel in the operating direction with your right palm while pulling the thread up from the bobbin, using your left hand.



A wound bobbin being placed in its case.

Threaded bobbin case

Diagram Q

If you look at the drawing of a threaded case, you will find that the thread leaves the case through a hole after it passes under the spring. The tension spring is usually held by two screws; one is always tight, and the other is adjustable and will allow you to tighten or loosen the spring tension.

The other main part of a case is the latch or pull-out lever. This is hinged with a spring and is needed to remove or replace the case in the machine.

The bobbin is really only a part of the "hook" assembly, which includes the bobbin, the bobbin case, and the rotating hook. If you turn the hand wheel and watch the action of the "hook" assembly, you will see that the bobbin stands still while the hook rotates around it.

In order to sew, the machine must first make a needle-thread loop, which is formed after the needle has penetrated the cloth and started up again. It is at this point that the point of the hook must engage the loop.

You will hear expressions such as "timing the hook," "the hook is out of time," and other similar expressions which refer to the adjustment of a sewing hook. Your machine makes thousands of stitches per minute, and in order for it to work properly, the hook must be timed accurately to a thousandth of an inch. It must make its revolution and have its point above the eye in the needle as the needle makes its upward stroke after making a loop. The hook must also be set to the thousandth of an inch in its distance from the needle as it passes by picking up the loop.

The hook can be so far away as it passes that it will miss the loop, or it can be so close as to hit or graze the needle on its trip. For the most part, timing a machine hook is a job for the shop mechanic. Considerable damage can result if the timing job is done improperly.

The chainstitch machine does not have a bobbin, but it has a looper which is threaded and serves as a bottom thread. The looper must perform like the sewing hook. The looper point must be at the needle at the right time to catch the loop. The main difference between a chainstitch and a lockstitch machine is that the lockstitch requires a bobbin for bottom thread supply, while the two-thread chainstitch (401) gets its supply from a thread cone.

THREADING FOR JUKI SERGE

(See individual threading charts which come with each brand of machine--each machine is quite different)

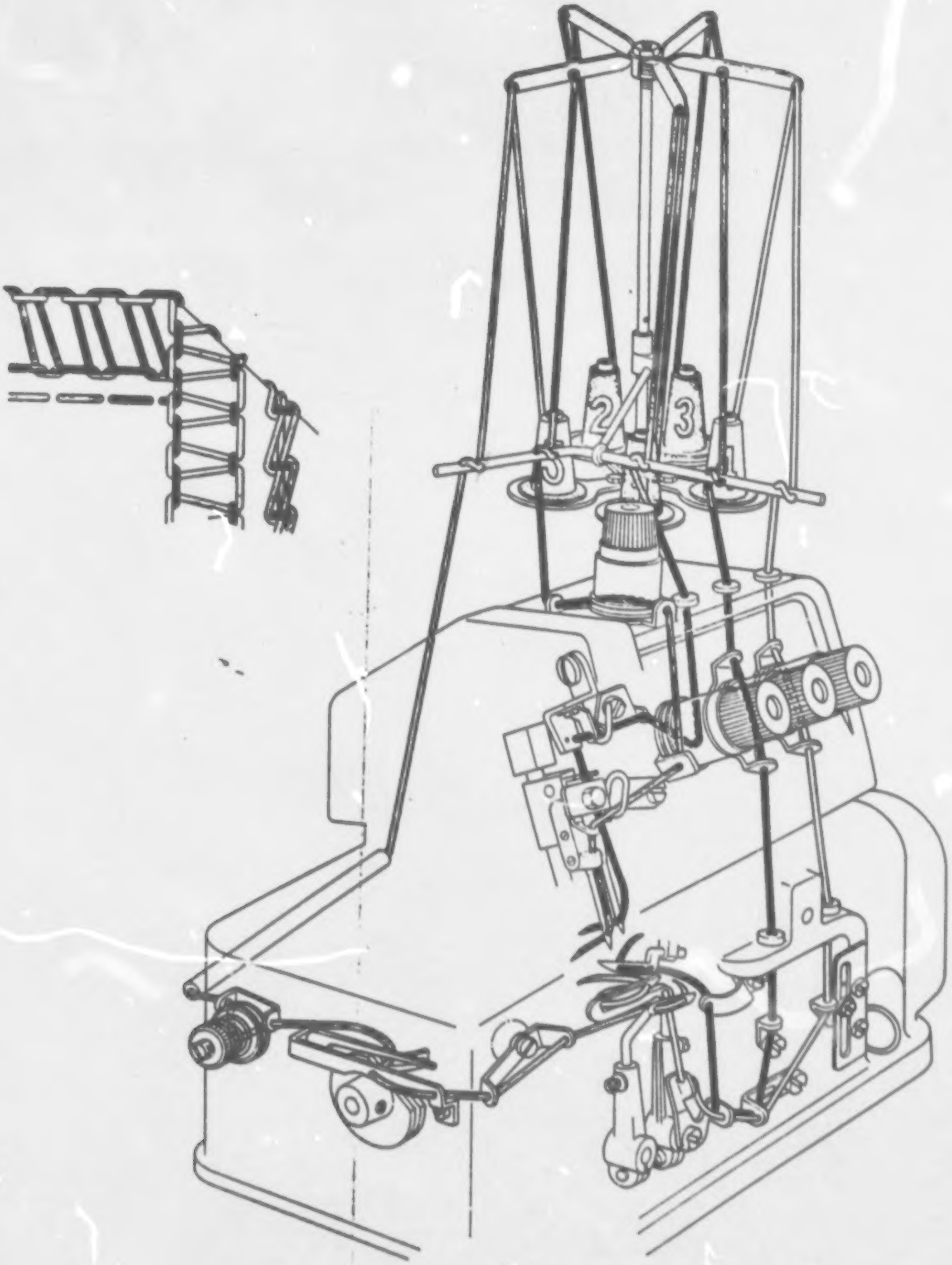
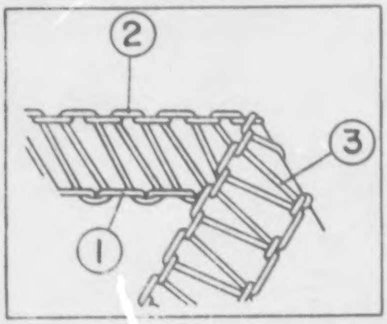


Diagram R

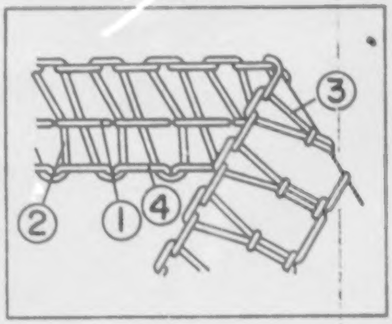
The thread tension

The thread tension varies according to the kinds of sewing material, thickness and kinds of sewing thread, overedging width, stitch length and etc. and therefore the pressure of the thread tension disc must be adjusted in each individual case.

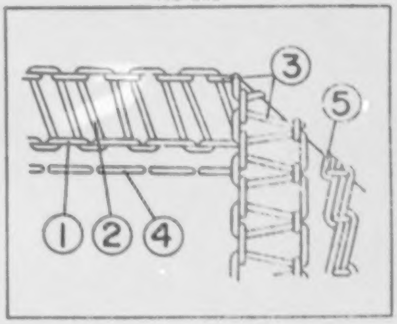
MO-804



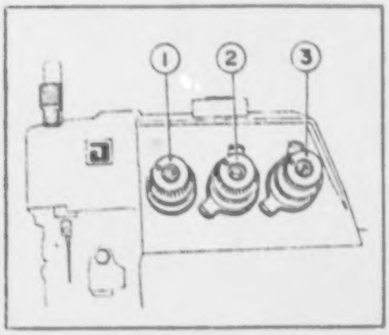
MO-814

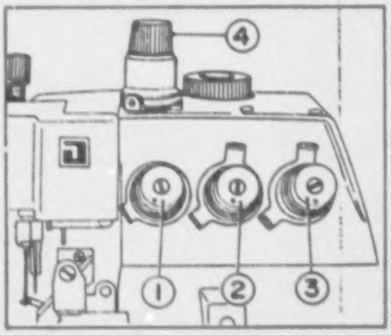


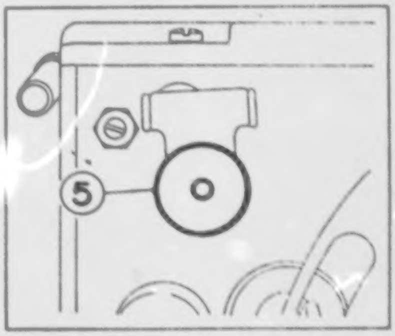
MO-816



(1) Overlock needle thread should be adjusted by tension knob ①.
(2) Upper looper thread should be adjusted by tension knob ②.
(3) Lower looper thread should be adjusted by tension knob ③.
(4) Double chain needle thread or left side overlock needle thread should be adjusted by tension knob ④. (In case of MO-816 or MO-814)
(5) Double chain looper thread should be adjusted by tension knob ⑤. (In case of MO-816)





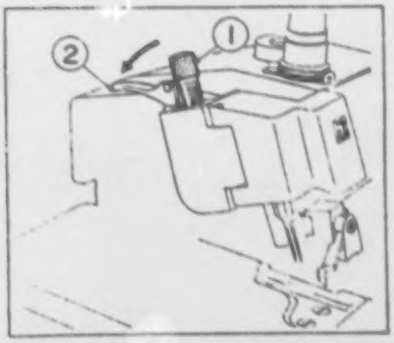


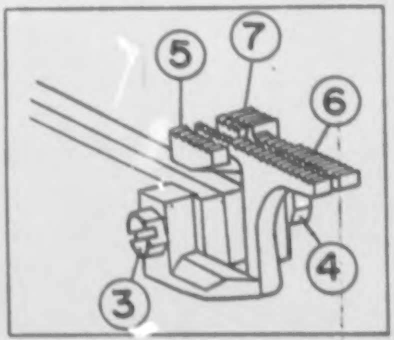
Presser foot and feed dog

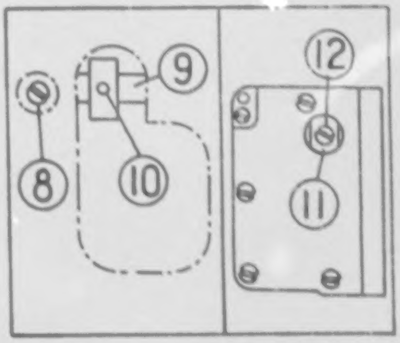
(1) The pressure of the presser foot is adjusted by rotating the presser foot adjusting screw ①. The standard pressure is 4.5 kg. (9.9 lbs)

- When the presser foot is to be turned sideways, knock down the presser lifting lever ② to the rear. When the presser foot is returned to the original position, be sure to knock down the presser lifting lever toward front.

(2) The standard protrusion of the feed dog from the throat plate surface is 0.8 mm(1/32").
For heavy weight materials, make the protrusion amount bigger and for light weight materials make it less.
The protrusion amount can be adjusted by the feed dog set screws ③ and ④. When making this adjustment, be sure that the height of the main feed dog ⑤ and the sub feed dog ⑥ becomes equal. The auxiliary feed dog ⑦ should be installed 0.5 mm(1/64") lower than this height.







(3) Adjusting the slanting of the feed dog
Remove the rear side cover of the machine. Then, remove the rubber cap and loosen the set screw ⑧. If a round bar is inserted into the hole ⑩ of the eccentric shaft ⑨ and rotated, the slanting of the feed dog can be adjusted. After adjustment, tighten the set screw ⑧. Also, in so doing, loosen the screw ⑫ and move the thrust collar so that the screw ⑫ of the feed bar shaft thrust collar ⑪ coming out from the hole of the feed mechanism cover, comes directly overhead.

THREADING FOR HEMMER (US BLINDSTITCH)

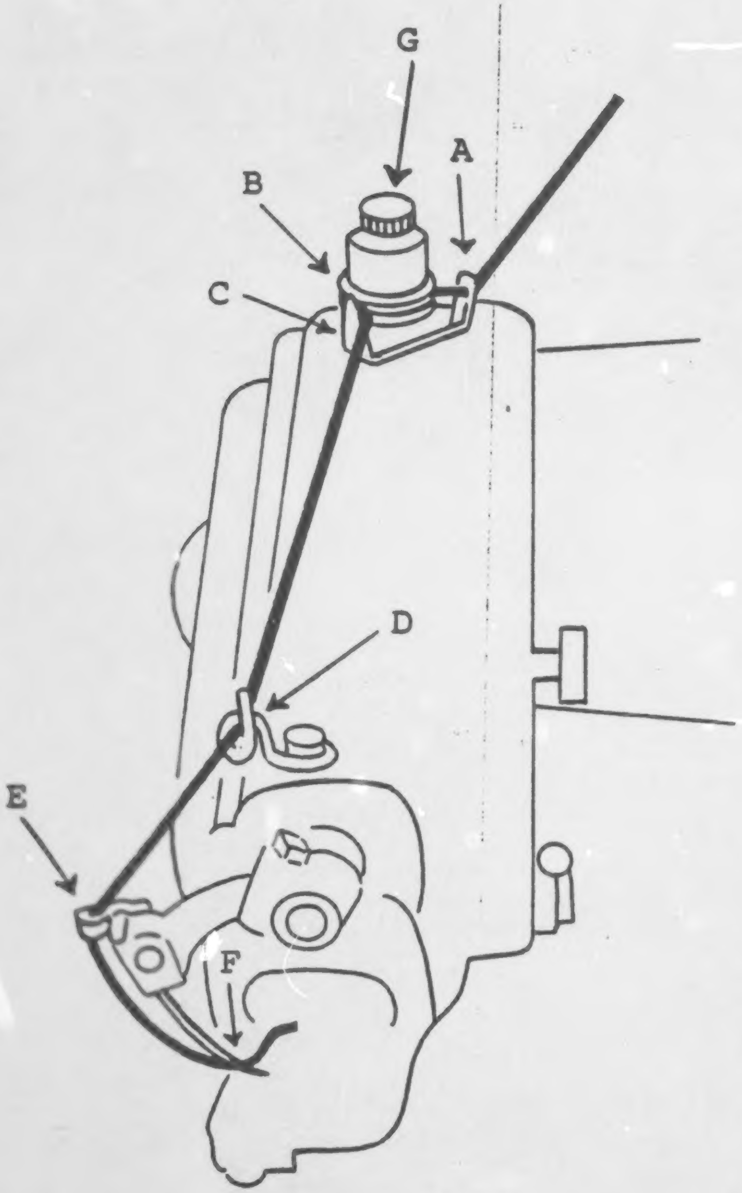


Diagram T

POWER SEWING EQUIPMENT

Part II = Student Use and Care of Power Equipment

POWER SEWING EQUIPMENT

Part II = Student Use and Care of Power Equipment

This module has been prepared to meet the needs of occupational clothing students and designed to train students in the fundamental machine operational skill requirements desirable for beginning operators before employment in the needle trade industry. Upon completion of this module the students should have developed the following competencies to:

1. Demonstrate skill in operational maintenance and care of the Straight Stitch Power Machine.
2. Demonstrate skill in operational maintenance and care of the Serging Machine.
3. Demonstrate skill in operational maintenance of the Blind Hemmer.

COMPETENCY #1. Straight Stitch Power Machine

The student will demonstrate skill in operational maintenance and care of the Straight Stitch Power Machine.

LEARNING ACTIVITIES

Before performing the following activities read pages 2 to 16.

Name the following parts and explain their functions:

1. Oil Gauge Window (oil pan and oiling)

    a. The student will fill oil gauge reservoir and watch to see that the gauge arrow is pointing straight up. (See diagram B)

    or

    b. Oiling points for machines which do not have oil reservoirs. The student will oil each necessary point on machine (See diagram A or machine instruction booklet for oiling procedure).

2. Presser Foot Knee Lifter. Using paper drill form (#3), the student will practice raising the presser foot between cross lines without changing the speed of the machine.

3. Presser adjusting screw, presser bar and presser foot. The student will adjust the pressure screw until adjustment is correct for particular fabric being used. (See diagram C)

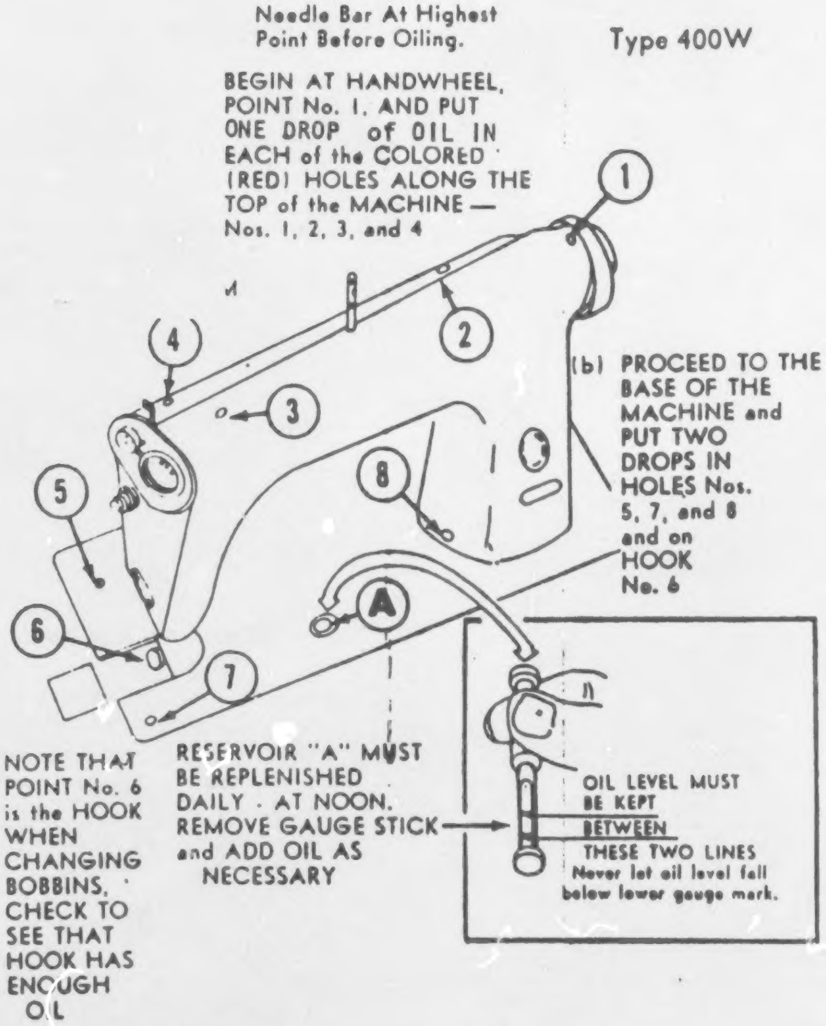
4. Upper Thread Tension. The student will adjust the upper thread tension until he/she achieves a stitch with bobbin and upper thread meeting midway.

5. Feed Dogs. The student will lower and raise the feed dogs and observe that fabric will not pass through without the feed dogs in their proper place. (See diagram C)

You must always remember that THE HOOK OF THE MACHINE SHOULD NEVER BE OILED WITH THE BOBBIN AND BOBBIN CASE IN THE MACHINE.

The bobbin and bobbin case should be removed from the machine and the machine oiled in designated oiling holes and wells. The hook shaft should be wiped before replacing the bobbin and bobbin case. You should sew on a scrap of material until the material and stitches show clean and free of oil.

OILING INSTRUCTION



Needle Bar At Highest Point Before Oiling.

Type 400W

BEGIN AT HANDWHEEL, POINT No. 1, AND PUT ONE DROP of OIL IN EACH of the COLORED (RED) HOLES ALONG THE TOP of the MACHINE — Nos. 1, 2, 3, and 4

(b) PROCEED TO THE BASE OF THE MACHINE and PUT TWO DROPS IN HOLES Nos. 5, 7, and 8 and on HOOK No. 6

NOTE THAT POINT No. 6 is the HOOK WHEN CHANGING BOBBINS, CHECK TO SEE THAT HOOK HAS ENOUGH OIL

RESERVOIR "A" MUST BE REPLENISHED DAILY - AT NOON. REMOVE GAUGE STICK and ADD OIL AS NECESSARY

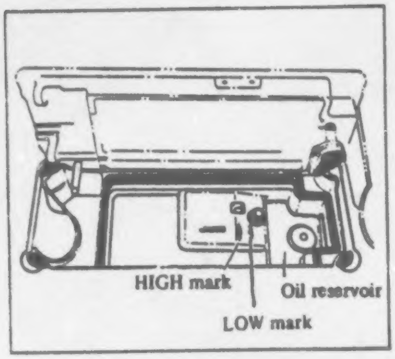
OIL LEVEL MUST BE KEPT BETWEEN THESE TWO LINES
Never let oil level fall below lower gauge mark.

WIPE ALL EXCESS OIL OFF MACHINE AND WORK PLACE

Diagram A

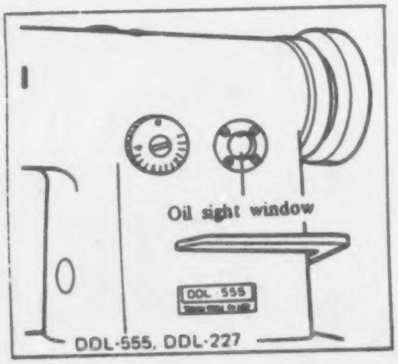
OILING INSTRUCTIONS FOR STRAIGHT STITCH WITH OIL RESERVOIR (JUKI)

LUBRICATION



BEFORE OPERATING THE MACHINE

1. Fill up the oil reservoir with JUKI New Defrix Oil No. 1 up to the mark "HIGH".
2. Watch and see that the oil level does not go below the "LOW" mark.



3. Under normal conditions, when the machine is run after it is filled up with oil, the oil will spurt against the oil sight window.

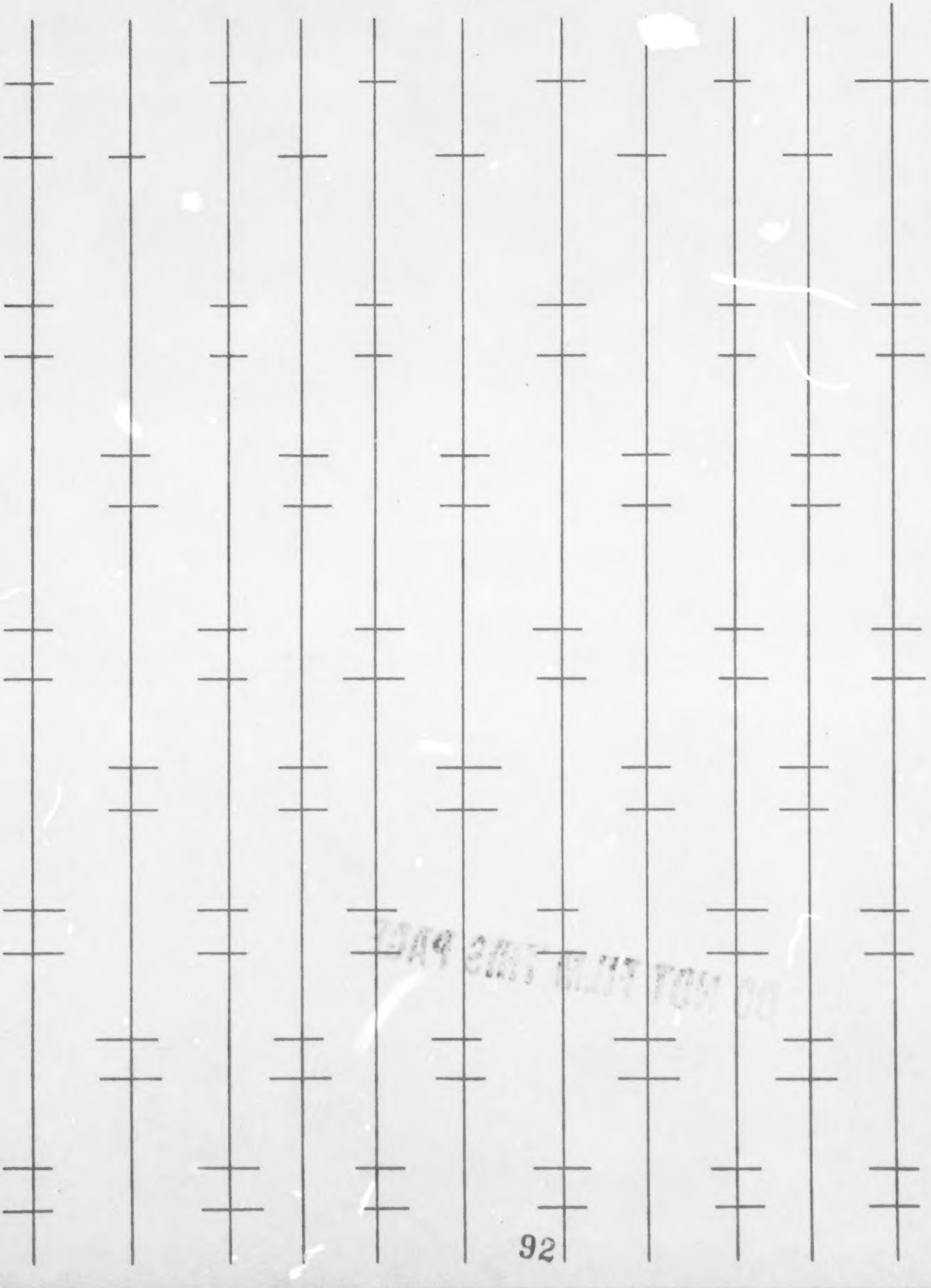
(CAUTION)

1) When the oil gets dirty, change it with new, fresh oil. If the oil plug of the reservoir is removed, oil will come out.
2) When the machine is to be run for the first time or when it was idle for a great length of time, run the machine at 3,000-3,500 s.p.m. for about 10 minutes and allow the machine to get well-oiled.
3) When the machine is to be run constantly at less than 3,500 s.p.m. adjust so that the oil supply to various parts be increased.

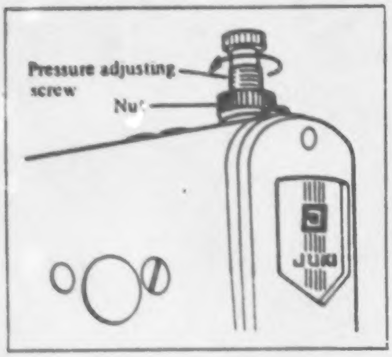
Diagram B

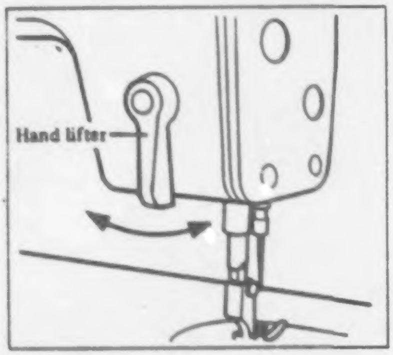
Name ______________________

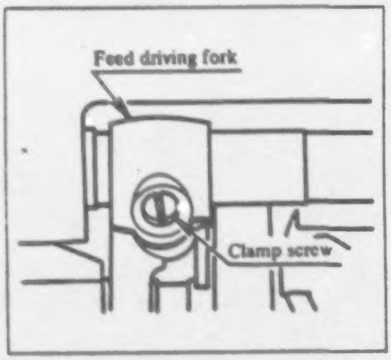
Drill Form #3

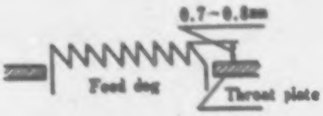


PRESSER FOOT AND FEED DOG









ADJUSTING THE PRESSURE OF THE PRESSER FOOT

1. Turn the pressure adjusting screw to right to make the pressure stronger.
2. Turn this screw to left to make the pressure weaker. Normal pressure for general fabric is about 5 kg(11 lbs).
3. After adjustment, firmly tighten the nut.

THE PRESSER FOOT HAND LIFTER

To stop the presser foot at the lifted position:

1. Rotate the hand lifter in the rear of the face part either to right or left.
2. The presser foot will go up about 5 mm (13/64") and stops.
3. To lower the presser foot, activate the knee lifter once and the presser foot will come down to the original position.
4. With the knee lifter, the presser foot will go up about 10 mm (25/64")

HEIGHT OF THE FEED DOG

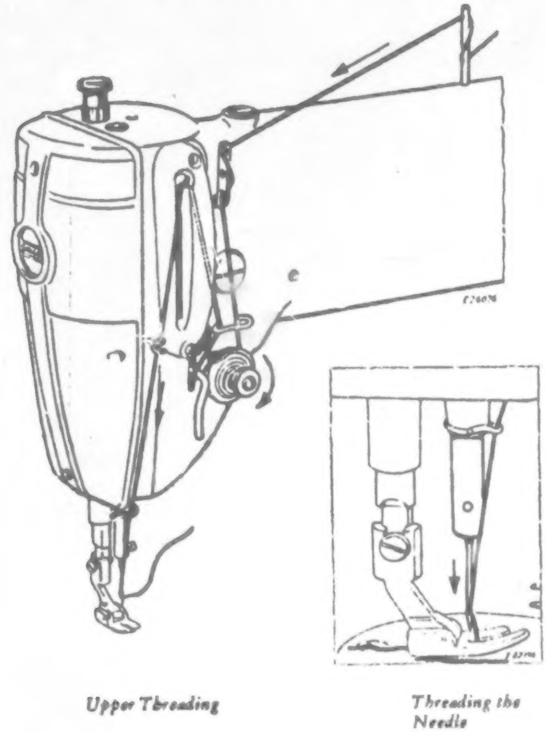
The height of the feed dog from the surface of the throat plate is set from 0.7-0.8 mm (1/32"). In sewing light weight materials, if this height is too high, shrink-stitching may result.
To adjust the height of the feed dog:

1. Loosen the clamping screw of the feed driving fork of the compound feed.
2. Move the feed dog base up and down and adjust.
3. After adjusting, tightly tighten the clamping screw.

Diagram C

BE SURE

that the needle is threaded from the proper direction. Always thread the needle from the side of the needle with the long groove. The long groove of the needle is placed in the direction of the last thread guide. Machine manufacturers furnish threading diagrams for all machines.



Upper Threading

Threading the Needle

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Diagram D

The above threading instructions and illustrations are intended only as a general guide. Remember, each machine has a definite threading procedure, so it is necessary to find the right procedure before you thread any machine. Skipped stitches and broken thread can easily be caused by faulty threading, so always check your threading if these troubles appear.

Lockstitch machines always have a bottom thread that comes from the bobbin. Good threading procedure would include checking the bobbin to see that the thread is unreeling properly.

If the top tension is too loose, the seam has loops on the bottom. If the top tension is correct, the seam is smooth and the same on both sides. A well-trained operator will recognize the need for the adjustment of the tension and will usually accomplish this adjustment without outside assistance.

Remember, to change the tension, turn the adjusting nut on the tension assembly. To make the tension tighter, turn to the right (clockwise). To make the tension looser, turn to the left (counter-clockwise).

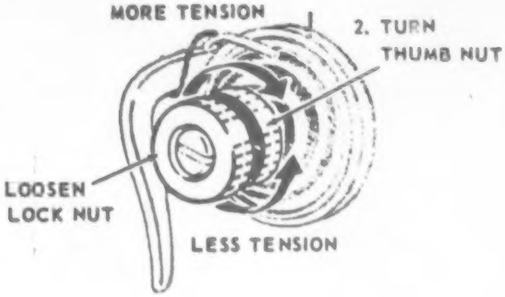

MORE TENSION
2. TURN THUMB NUT
LOOSEN LOCK NUT
LESS TENSION

Diagram E

To change the tension on the bobbin case, turn the tension (large) screw on the bobbin case. Turn to the right (clockwise) to make the tension tighter. Turn to the left (counter-clockwise) to make the tension looser.

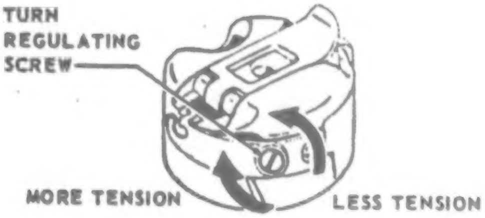
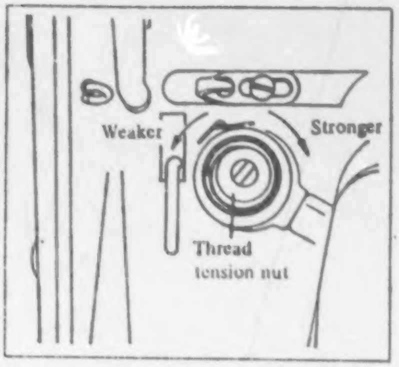
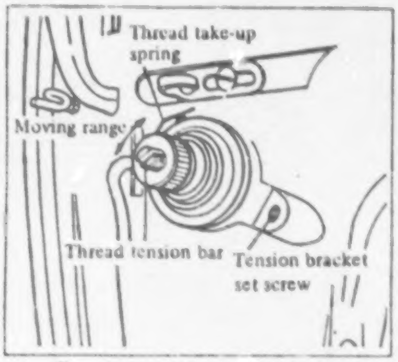

TURN REGULATING SCREW
MORE TENSION
LESS TENSION

Diagram F

Chainstitch machines do not have a bobbin, but if the machine has a threaded looper you must follow the instructions to see that this thread is fed properly into the eye of the looper. Many machines with threaded loopers require special tools because of the inaccessibility of some threading points.

THE TENSION DISC ADJUSTMENT


Weaker
Stronger
Thread
tension nut


Thread take-up
spring
Moving range
Thread tension bar
Tension bracket
set screw

ADJUSTING THE NEEDLE THREAD TENSION
Ideal stitches are formed when the needle thread and the bobbin thread are perfectly interlocked at the center of the cloth. The tension of the needle thread is adjusted by the thread tension nut.

1. Turn it to right to make the tension stronger and to the left to make it weaker.

THREAD TAKE-UP SPRING

*To change the moving range of the thread tension spring:

1. Loosen the screw of the thread tension bracket.
2. Rotate the thread tension bar.

*To change the strength of the thread take-up spring.

1. Loosen the set screw, remove the thread tension bar.
2. Loosen the thread tension bar set screw and adjust.
3. When the thread tension bar is turned to right, the spring will get stronger and if turned to left, it will get weaker.

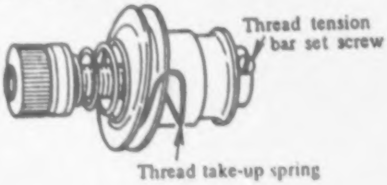
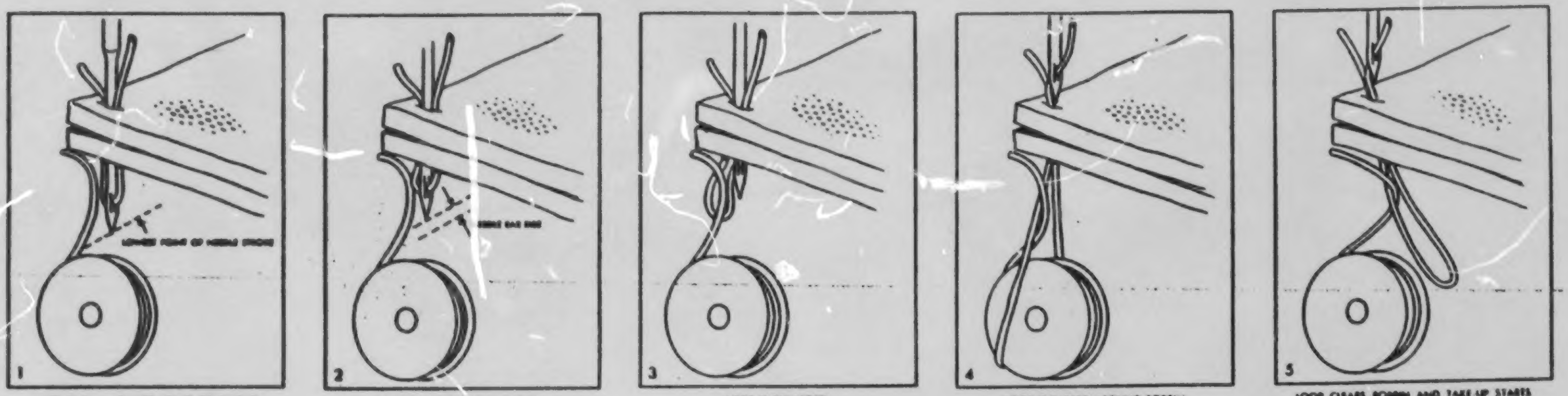

Thread tension
bar set screw
Thread take-up spring

Diagram G

FORMATION OF A LOCK STITCH


LOWEST POINT OF NEEDLE STROKE
1
2
3
4
5

1 NEEDLE IS AT LOWEST POINT OF STROKE

2 NEEDLE RISES TO FORM LOOP

3 LOOP IS ENLARGED

4 LOOP IS PASSED AROUND BOBBIN

5 LOOP CLEARS BOBBIN AND TAKE-UP STARTS TO DRAW THREAD UP

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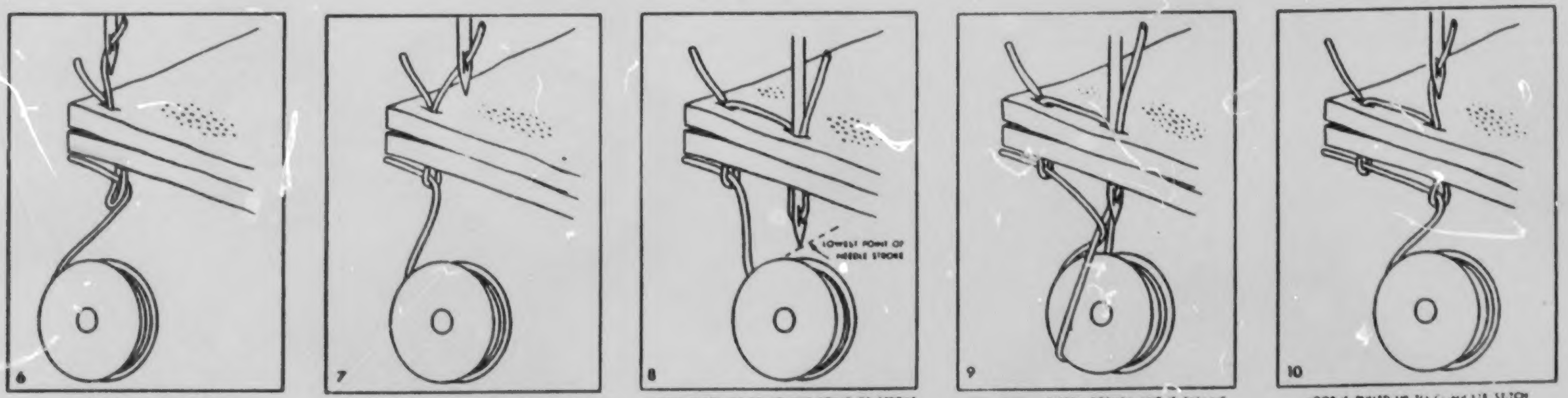

LOWEST POINT OF NEEDLE STROKE
6
7
8
9
10

6 TAKE UP DRAWS LOOP CLOSED

7 FEED MOVES MATERIAL TO NEXT STITCH POSITION

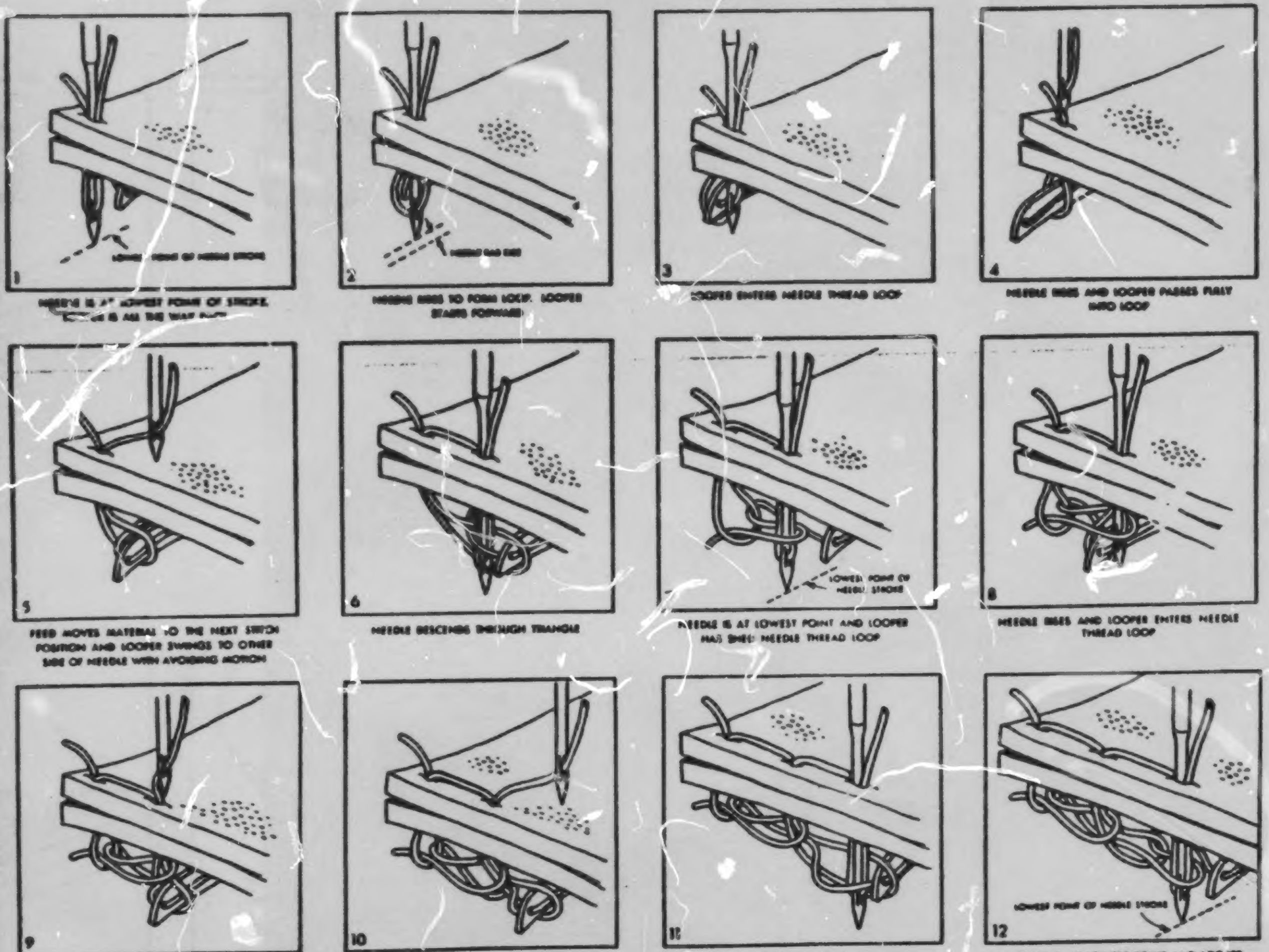
8 NEEDLE DESCENDS TO LOWEST POINT OF STROKE

9 NEW LOOP HAS BEEN FORMED AND IS PASSING AROUND BOBBIN

10 LOOP IS PULLED UP TO COMPLETE STITCH

Diagram H

FORMATION OF A TWO THREAD CHAIN STITCH


LOWEST POINT OF NEEDLE STROKE
NEEDLE HAS RISEN
LOWEST POINT OF NEEDLE STROKE
LOWEST POINT OF NEEDLE STROKE
1
2
3
4
5
6
8
9
10
11
12

1 NEEDLE IS AT LOWEST POINT OF STROKE. LOOPER IS ALL THE WAY BACK

2 NEEDLE RISES TO FORM LOOP. LOOPER STARTS FORWARD

3 LOOPER ENTERS NEEDLE THREAD LOOP

4 NEEDLE RISES AND LOOPER PASSES FULLY INTO LOOP

5 FEED MOVES MATERIAL TO THE NEXT STITCH POSITION AND LOOPER SWINGS TO OTHER SIDE OF NEEDLE WITH AVOIDING MOTION

6 NEEDLE DESCENDS THROUGH TRIANGLE

NEEDLE IS AT LOWEST POINT AND LOOPER HAS SHED NEEDLE THREAD LOOP

8 NEEDLE RISES AND LOOPER ENTERS NEEDLE THREAD LOOP

9 NEEDLE CONTINUES RISE AND LOOPER STARTS ITS RETURN STROKE

10 FEED MOVES MATERIAL TO THE NEXT STITCH POSITION AND LOOPER SWINGS TO OTHER SIDE OF NEEDLE WITH AVOIDING MOTION

11 NEEDLE DESCENDS THROUGH TRIANGLE

12 NEEDLE IS AT LOWEST POINT AND LOOPER HAS SHED NEEDLE THREAD LOOP

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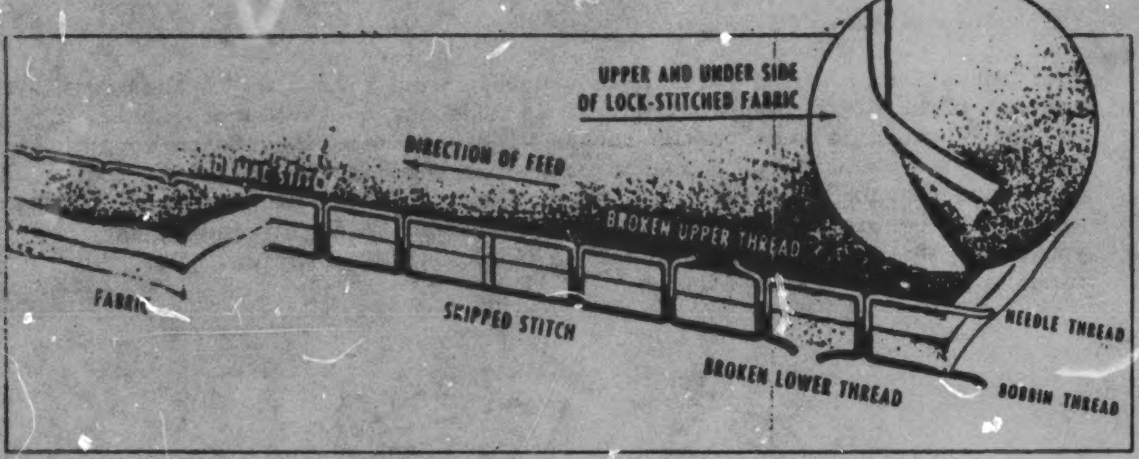
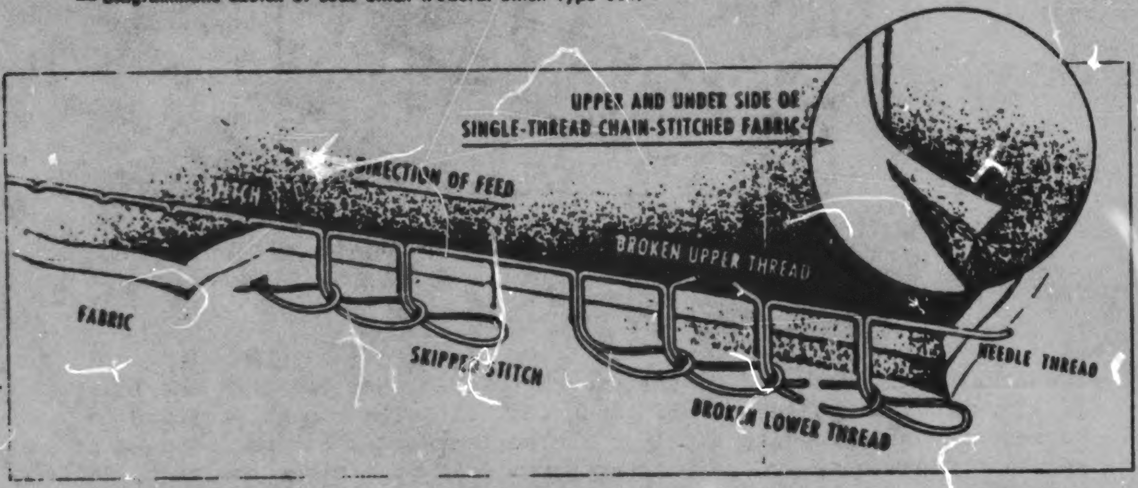
Diagram I

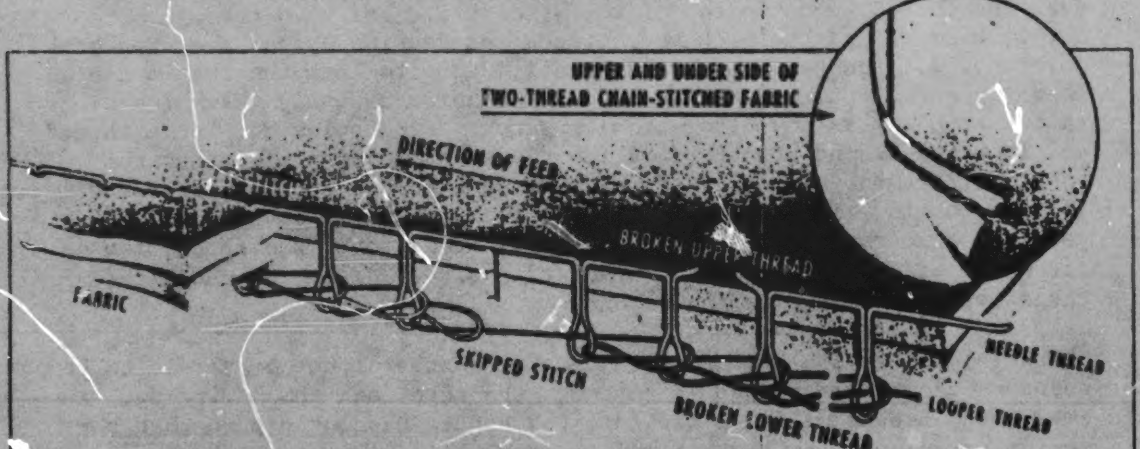
STITCH FORMATIONS AND FAULTS


UPPER AND UNDER SIDE
OF LOCK-STITCHED FABRIC
DIRECTION OF FEED
NORMAL STITCH
BROKEN UPPER THREAD
FABRIC
SKIPPED STITCH
NEEDLE THREAD
BROKEN LOWER THREAD
BOBBIN THREAD

— Diagrammatic Sketch of Lock Stitch (Federal Stitch Type 301)


UPPER AND UNDER SIDE OF
SINGLE-THREAD CHAIN-STITCHED FABRIC
DIRECTION OF FEED
STITCH
BROKEN UPPER THREAD
FABRIC
SKIPPED STITCH
NEEDLE THREAD
BROKEN LOWER THREAD

— Diagrammatic Sketch of Single Thread Chain Stitch (Federal Stitch Type 101)


UPPER AND UNDER SIDE OF
TWO-THREAD CHAIN-STITCHED FABRIC
DIRECTION OF FEED
STITCH
BROKEN UPPER THREAD
FABRIC
SKIPPED STITCH
NEEDLE THREAD
LOOPER THREAD
BROKEN LOWER THREAD

— Diagrammatic Sketch of Two Thread Chain Stitch (Federal Stitch Type 401)

Diagram J

The Bobbin Winder

Most lockstitch machines will have a bobbin winder mounted at the extreme right of the machine, and it is adjacent to the machine belt. An extra bobbin is kept on the bobbin winder at all times to be wound and ready as necessary. A second cone of thread is threaded into the guide and tension disc for the winder. The thread is then wrapped around the bobbin, the bobbin mechanism engaged to begin winding as you sew. This way no time is lost in the winding operation. The winding mechanism is as follows:

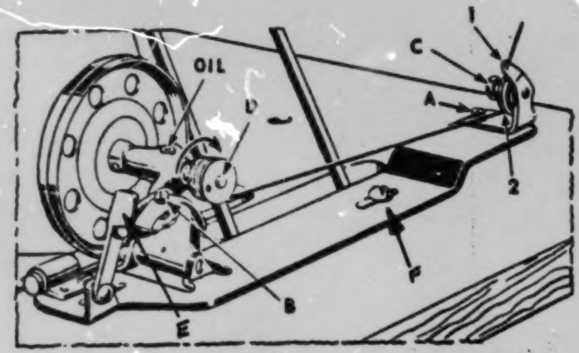


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Diagram K

The bobbin winder should be positioned so that when you push the lever (E) forward, the pulley should touch the belt with enough pressure to cause the bobbin to wind firmly. The set screw (F) can be loosened to position the winder. Once the set screw is in the right position, it is rarely necessary to change. The thread is fed in by first bringing it over the thread guide on top of the spool stand and down through hole No. 1, then around the back and between the tension discs, emerging at point No. 2. The tension should be sufficient to keep the thread taut. There is an adjustment screw (C) on the tension assembly which functions in the same way as any other tension screw. From point No. 2 the thread end is wound around the bobbin a few times in the direction that the bobbin will turn. You are now ready to push the lever (E) forward, and the bobbin will start to wind when the machine is operating. If you find that the thread is not spreading evenly over the spool, loosen screw (A) and turn the tension bracket in either direction until the thread winds evenly over the bobbin.

Screw (B) controls a spring which determines the amount of thread to be wound on the bobbin before it releases the lever and stops winding. An over-wound bobbin will not fit into the bobbin case. Be sure that the spring is adjusted so that it will release the lever at the exact moment when the bobbin is wound to its fullest.

The Bobbin

Every machine must use a specified size bobbin and bobbin case. They are interchangeable within one class of machines, but they are not always interchangeable with other classes of machines.

Since bobbins can carry only a limited amount of thread, wound bobbins must always be on hand to use as quickly as they are needed. Unless the factory provides pre-wound bobbins, each machine is equipped with a bobbin winder that winds new bobbins at the same time you are sewing. In this way you do not lose sewing time in order to wind bobbins. There is a considerable amount of friction between a bobbin and a bobbin case, and it is important that all surfaces be smooth and free from anything that can snag the thread being unreeled. A bobbin or its case can be so worn from friction that it will cause a wobble in assembly. This will lead to thread breakage, and the parts should be replaced immediately.

The bobbin case has several parts which must be examined regularly if your machine is to sew properly. Perhaps the most important part is the tension spring, which controls the tension of the thread as it leaves the bobbin.

When you want to change the bobbin, follow illustrated steps below:

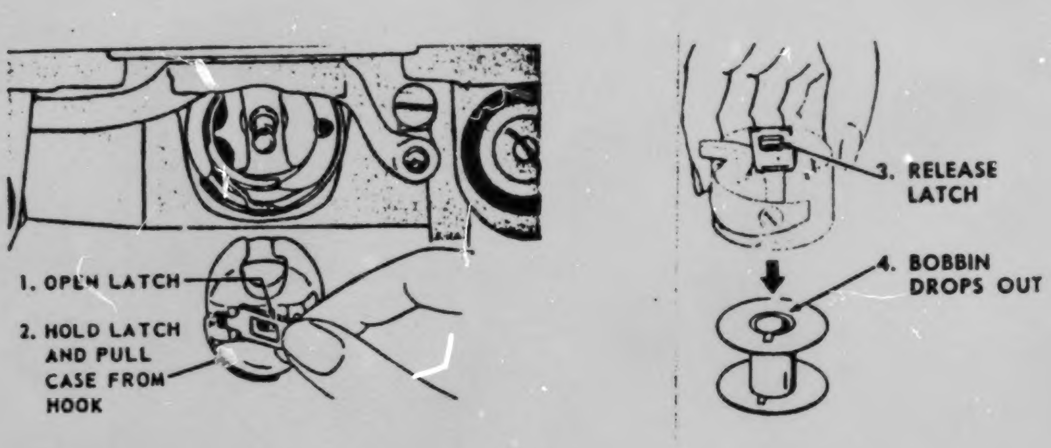


Diagram L

Place the full bobbin (from the winder) in the bobbin case. Pull the thread from the bobbin through the tension slot.

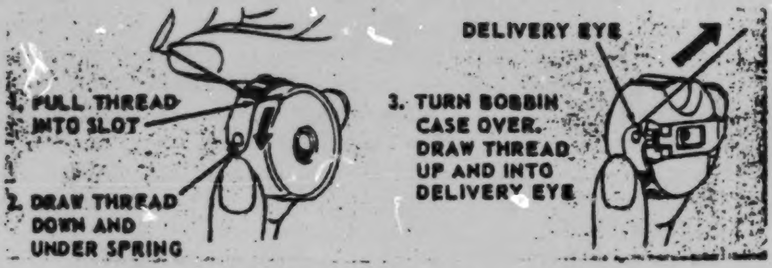

1. PULL THREAD INTO SLOT
2. DRAW THREAD DOWN AND UNDER SPRING
DELIVERY EYE
3. TURN BOBBIN CASE OVER. DRAW THREAD UP AND INTO DELIVERY EYE

Diagram M

The bobbin case must be replaced over the center post in the hook and pressed in until it locks and until an audible "click" is heard. The latch should be closed when inserting the case to feel or hear the click.

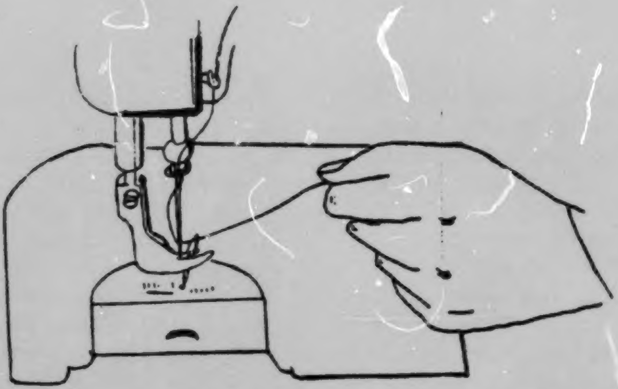
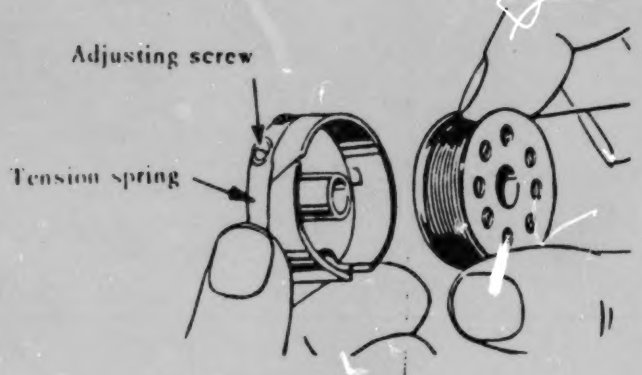
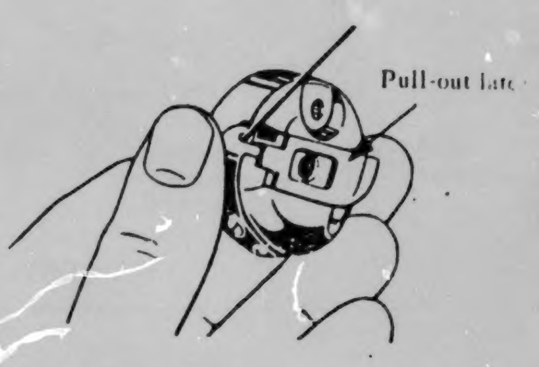


Diagram N

Turn the hand wheel in the operating direction with your right palm while pulling the thread up from the bobbin, using your left hand.



A wound bobbin being placed in its case.



Threaded bobbin case

Diagram O

If you look at the drawing of a threaded case, you will find that the thread leaves the case through a hole after it passes under the spring. The tension spring is usually held by two screws; one is always tight, and the other is adjustable and will allow you to tighten or loosen the spring tension.

The other main part of a case is the latch or pull-out lever. This is hinged with a spring and is needed to remove or replace the case in the machine.

The bobbin is really only a part of the "hook" assembly, which includes the bobbin, the bobbin case, and the rotating hook. If you turn the hand wheel and watch the action of the "hook" assembly, you will see that the bobbin stands still while the hook rotates around it.

In order to sew, the machine must first make a needle-thread loop, which is formed after the needle has penetrated the cloth and started up again. It is at this point that the point of the hook must engage the loop.

You will hear expressions such as "timing the hook," "the hook is out of time," and other similar expressions which refer to the adjustment of a sewing hook. Your machine makes thousands of stitches per minute, and in order for it to work properly, the hook must be timed accurately to a thousandth of an inch. It must make its revolution and have its point above the eye in the needle as the needle makes its upward stroke after making a loop. The hook must also be set to the thousandth of an inch in its distance from the needle as it passes by picking up the loop.

The hook can be so far away as it passes that it will miss the loop, or it can be so close as to hit or graze the needle on its trip. For the most part, timing a machine hook is a job for the shop mechanic. Considerable damage can result if the timing job is done improperly.

The chainstitch machine does not have a bobbin, but it has a looper which is threaded and serves as a bottom thread. The looper must perform like the sewing hook. The looper point must be at the needle at the right time to catch the loop. The main difference between a chainstitch and a lockstitch machine is that the lockstitch requires a bobbin for bottom thread supply, while the two-thread chainstitch (401) gets its supply from a thread cone.

COMPETENCY #2. Serger or Overlock Machine

The student will demonstrate skill in operational maintenance and care of the Serging Machine.

LEARNING ACTIVITIES

Before performing the following activities, read pages 17 to 21.

Name the following parts and explain their function:

1. Oil Gauge Window

   a. The student will fill oil gauge reservoir and watch to see that the gauge arrow is pointing straight up. (See Diagram A)

   or

   b. The student will follow the oiling instructions included with her particular machine.

2. Replacing the Needle. The student will unscrew the screw which holds the needle, remove the needle and replace it with a new one. Check that the needle is pushed to the end of the needle hole and needle groove is facing forward. (See Diagram P). If your machine does not resemble the one illustrated in this module refer to your instruction book on "needle change."

3. Presser Foot. The student will practice raising the presser foot with foot pedal and inserting fabric. (See Diagram Q)

4. Tension Adjustment. The student will adjust tension knob and identify the proper thread for each tension disc. (See Diagram Q)

5. The student will review the threading guide for her machine and be able to mark with different colors the threading sequence on a threading diagram of her particular machine.

6. The student will demonstrate skill in maintaining the serger by removing the needle plate and cleaning the needle movement and loopers each day.

HOW TO OPERATE THE MACHINE

1. CAUTIONS ON OPERATION

1. Do not, under any circumstances, start the machine before filling up the oil reservoir.
2. The rotational direction of the machine is clockwise as viewed from the pulley side. Do not run the machine in the reverse direction because if you do, the lubrication pump will not function and will invite scorching of the machine.

2. LUBRICATION AND DRAINAGE

1. Use JUKI Defrix Oil No. 2 for lubrication or similar type oil.
2. Remove the oil cover, attach the funnel in the accessories box and pour in oil until the top of the oil float indicator reaches the top line of the oil sight window. After filling up, cover up the oil cover.
3. Inspect the oil sight window every day before operating the machine. If the oil level falls below the lower line, fill it up to the upper line.
4. To drain out the oil, remove the oil drainage screw.

(CAUTION)

1. When the machine is to be operated for the first time or when it was idle for a long period of time, be sure to oil the top of the needle clamp guide bar (A) and the top part of the upper looper guide (B) before starting the sewing operation.
2. As the lower knife slide shaft (C) moves slightly during the running of the machine, apply a small amount of oil to the oiling hole (D) at the upper part of the lower knife installing body.
3. If any oil other than designated oil is used, it might invite scorching or oil leakage.

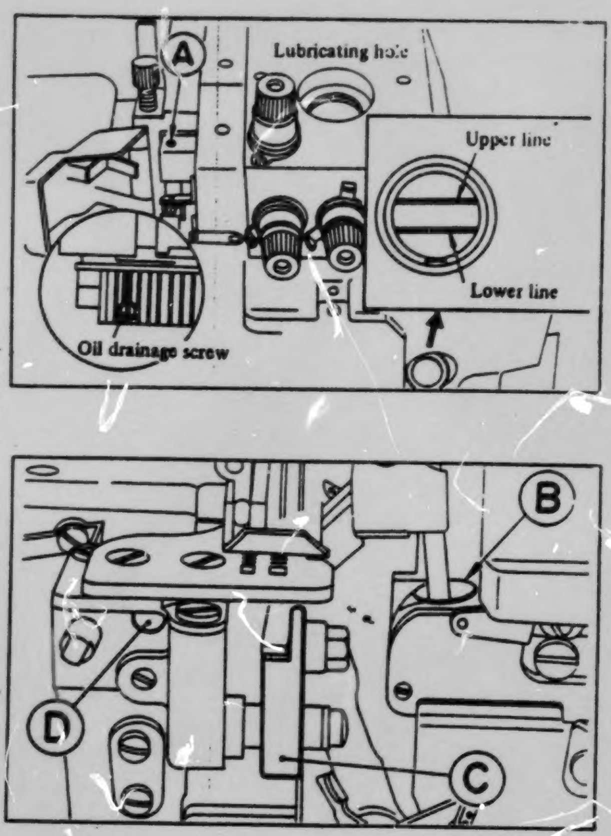
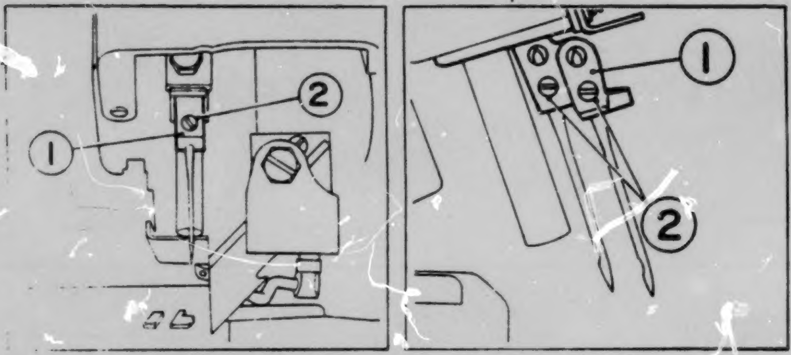


Diagram P

3. HOW TO INSTALL THE NEEDLE

The standard needle size for both overlock, double chain or for left overlock (MO-816 or MO-814) is DC x 27 #11. To install the needle:

1. Rotate the pulley and raise up the needle clamp to the highest position.
2. Loosen the needle clamp screw (2), insert the needle and push it up deep into the needle hole until it stops and tighten the screw.
3. Insert the needle so that the grooved part of the needle is facing the opposite side as seen from the front of the machine.



MO-804 MO-814-816

Diagram P(continued)

4. THREADING THE MACHINE

Refer to the accompanying figure for correct threading of this machine series or the thread guide included in your machine.

THREADING FOR JUKI SERGE

(See individual threading charts which come with each brand of machine; each machine is quite different)

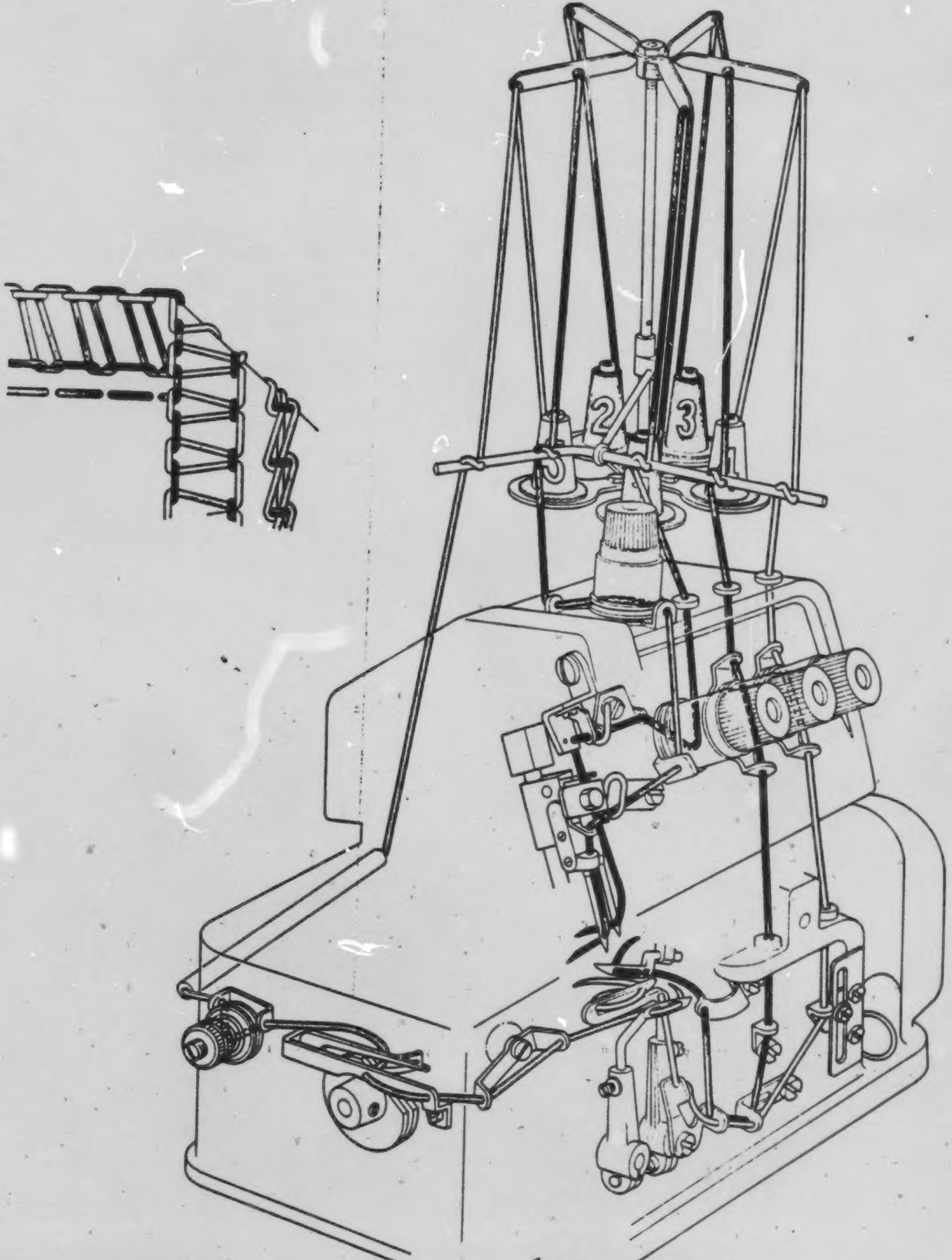


Diagram Q

Starting Pedal, Presser Foot, Lifting Pedal

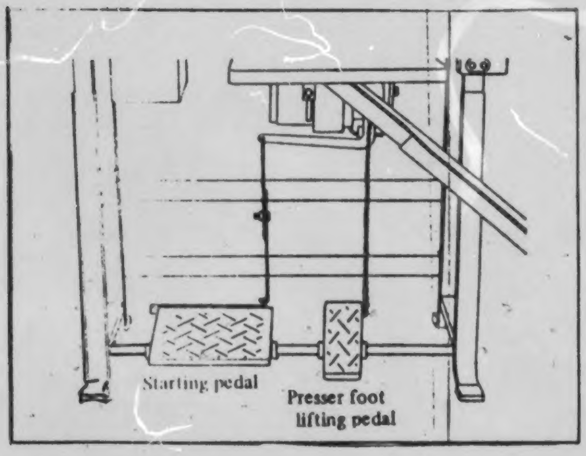

Starting pedal
Presser foot lifting pedal

Diagram R

COMPETENCY #3. Blind Hemmer

The student will demonstrate skill in operational maintenance of the Blind Hemmer.

LEARNING ACTIVITIES

1. Lubrication.

   a. The student will oil blind hemmer by following closely Diagram A and putting one drop of oil on each part illustrated. (See Diagram S)

   or

   b. The student will oil blind hemmer by following oiling diagram included with her particular machine.

2. Knee Lifter. The student will adjust the knee lifter to proper knee height for the student.

3. Stitch line adjustment. The student will adjust the edge guide to right or left making sure that the stitch catches hem edge properly.

4. Thread Tension. The student will adjust the thread tension until a stitch with proper tension is formed for individual fabric.

5. Needle penetration. The student will adjust the needle penetration to correctly penetrate the individual's particular fabric. (See Diagram U). The left view shows a minimum gap which would be used with thinner fabrics. The view at the right shows a larger gap which would be used with heavier fabrics. (See Diagram U)

6. Length of stitch. The student will not adjust stitch length because it has been preset at the factory and does not need adjustment.

7. Needle Replacement. The student will replace the needle in the following manner:

   (1) Loosen clamp screw.
   (2) Insert needle with flat surface toward rear of machine.
   (3) Tighten needle clamp screw.

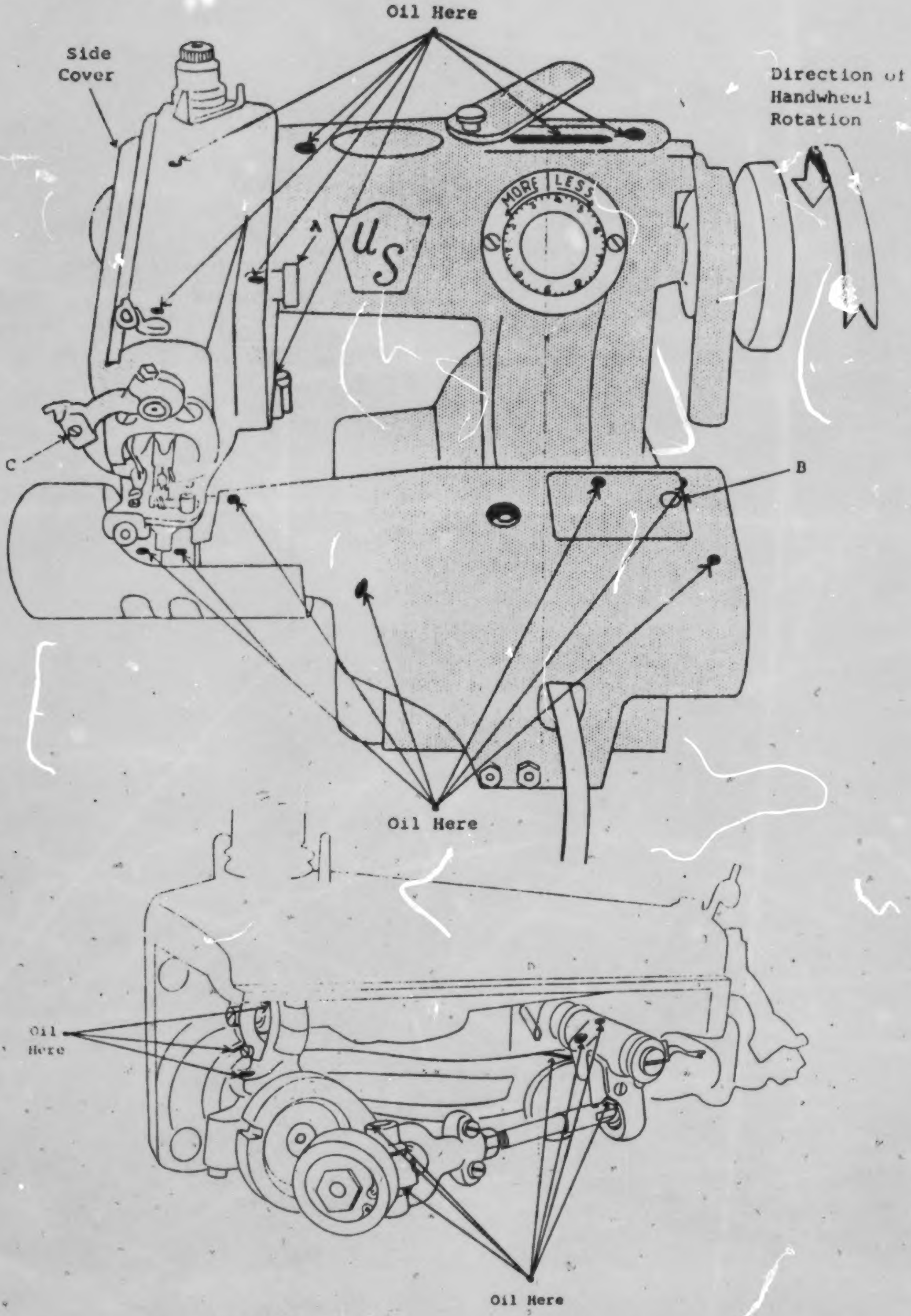
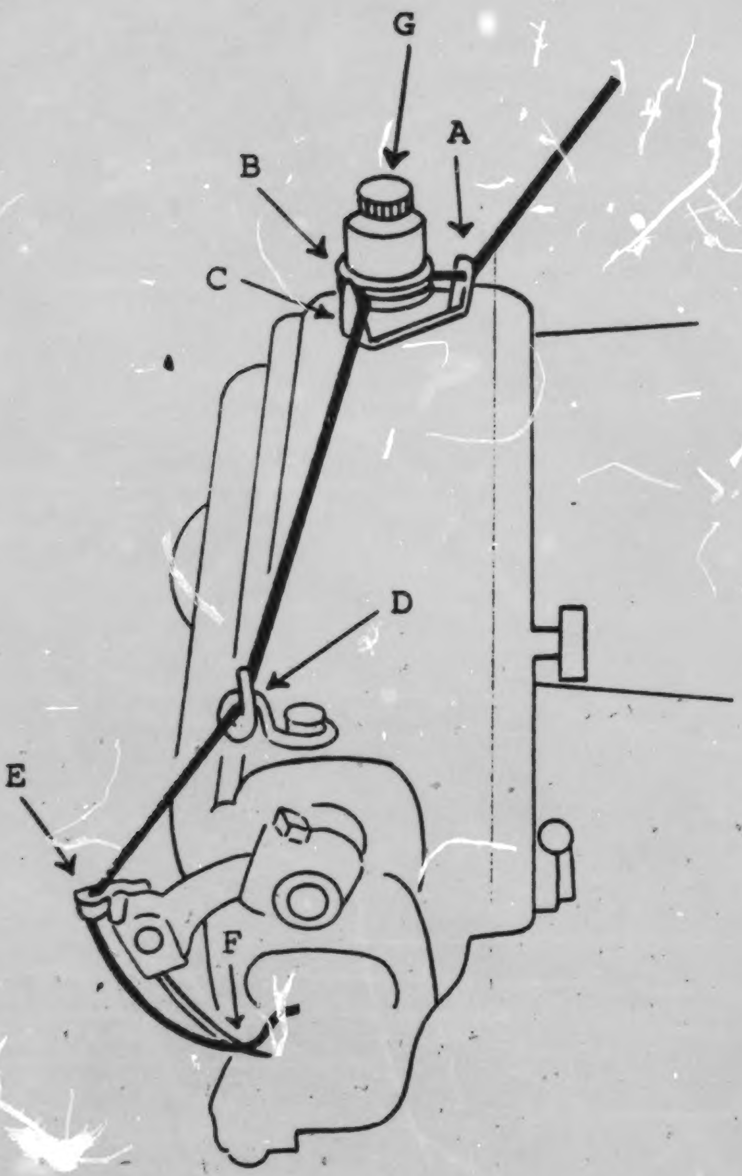

Oil Here
Side Cover
Direction of Handwheel Rotation
MORE LESS
US
C
B
Oil Here
Oil Here
Oil Here

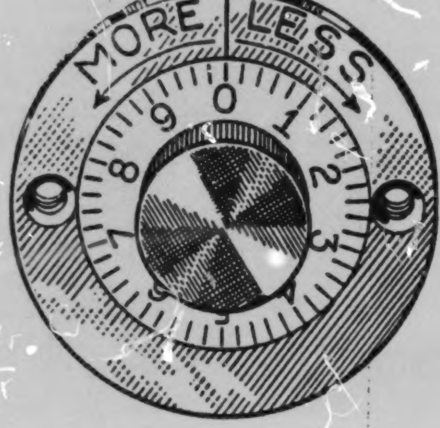
Diagram S

THREADING GUIDE

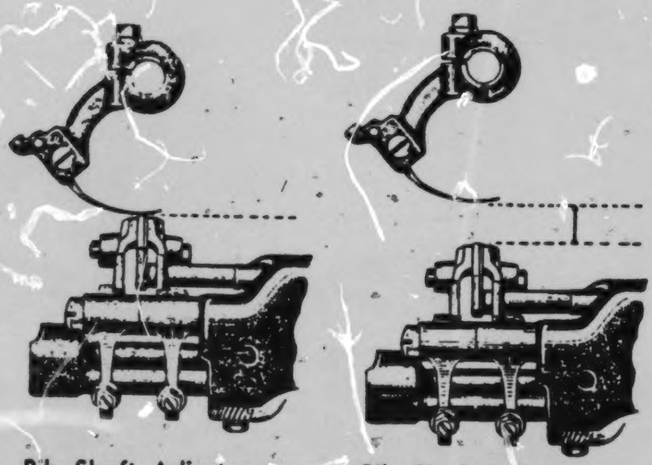


113

Diagram T


MORE
LESS
0
1
2
3
4
5
6
7
8
9

Penetration Dial



Rib Shaft Adjustment for "MORE"

Rib Shaft Adjustment for "LESS"

Diagram U

REFERENCES

Careers in Industrial Sewing, Publisher: The Education Committee of the American Apparel Manufacturers Association.

Instruction & Parts Catalog, Publisher: Willcox & Gibbs, Inc., 1971, W & G Sewing Equipment Co., a division of Willcox & Gibbs, Inc., Cedarhill Avenue, Nyack, New York, 10960.

Instruction Book for High Speed Single Needle, Lock Stitch, Industrial Sewing Machine, Tokyo Juki Industrial Co., Ltd.

Instruction Book for Super Speed Single Needle Overedging Industrial Sewing Machine; Super Speed Twin-Needle Overedging Industrial Sewing Machine; Super Speed Safety Stitch Industrial Sewing Machine, Tokyo Juki Industrial Co., Ltd.

Installation and Operating Instructions for U.S. Blind Stitch Machines, U.S. Blind Stitch Machine Corp., Express Street & Skyline Drive, Plainview, New York 11803.

Power Sewing Machine Operation, Utah State Board for Vocational-Technical Education 1970-71.

PERFORMANCE CHECKLIST

	SATISFACTORY	NOT SATISFACTORY
Competency #1		
Learning Activity #1		
#2		
#3		
#4		
#5		
Competency #2		
Learning Activity #1		
#2		
#3		
#4		
#5		
#6		
Competency #3		
Learning Activity #1		
#2		
#3		
#4		
#5		
#6		
#7		

BASIC INDUSTRIAL SEWING TECHNIQUES

BASIC INDUSTRIAL SEWING TECHNIQUES

Prerequisite:

Satisfactory completion of Use and Care of Power Sewing Equipment Module.

This module incorporates beginning techniques used in industrial sewing. Basic machine practices will be explored. Control and accuracy will be stressed. A baby quilt top is included as a project for the application of the included skills. A similar learning piece could be substituted.

The industrial sewing machines used in this module are: (1) single needle lockstitch; (2) serger; (3) blind hemmer. If all machines are not available, the module could be adjusted, eliminating those activities dealing with unavailable equipment.

Upon completion of this module, a student should be able to:

1. Identify single needle machine parts and their functions.
2. Observe good work habits.
3. Thread machine.
4. Attain ability in machine control.
5. Complete industrial type pocket set.
6. Sew baby quilt top.
7. Control serger.
8. Using hemmer, hem various fabric types.

*Teacher Note: Because of the likelihood of your laboratory being equipped with more single needle machines than specialty machines, it is suggested that students rotate on specialty machines to develop competencies #7 and #8 as they work through Competencies #1 - #6. If this plan is followed, it is probable that the whole class will complete the module at approximately the same time with a minimum of waiting being experienced to work specialty machines.

All teacher involvement with demonstrations and supplies are underlined.

COMPETENCY #1. Identify single needle machine parts and their functions.

LEARNING ACTIVITIES

1. Observe teacher demonstration during which she points to machine parts, explaining function of each.
2. Define machine parts.

Learning Activity #1. Observe teacher demonstration during which she points to machine parts, explaining function of each.

Refer to handout: PARTS AND FUNCTIONS.

Learning Activity #2. Define machine parts.

Using Diagram A, write the number of the correct machine part as listed in PARTS AND FUNCTIONS handout in the blank provided.

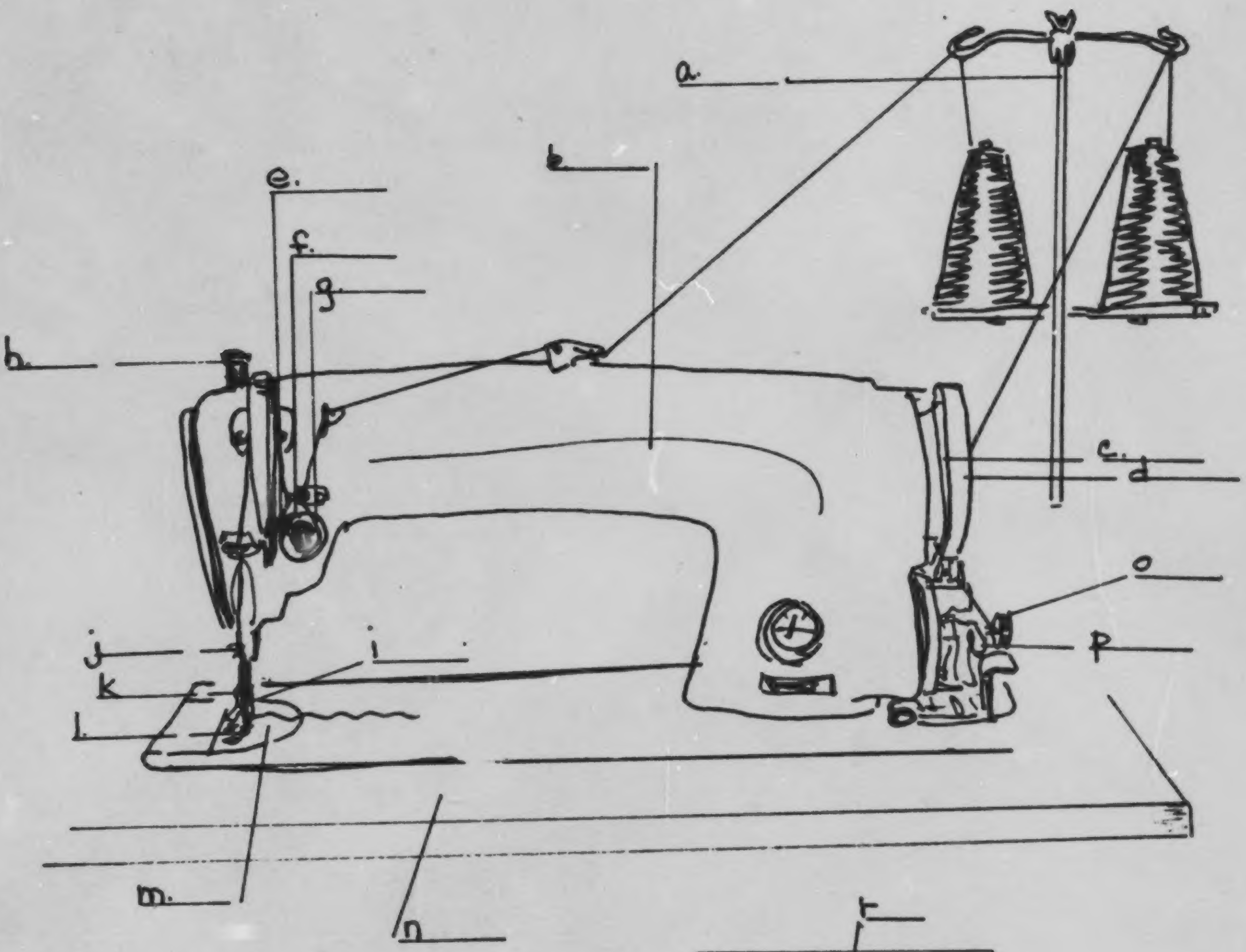
PARTS AND FUNCTIONS

1. Head. All machines are referred to as the head.
2. Table or stand. The cabinet that your machine fits into. The working area you use around the machine head.
3. Thread stand. Where the thread sits to feed into the machine.
4. Bobbin winder. Where you place your empty bobbin to wind it.
5. Belt. The rubber piece that fits around the hand wheel and the motor wheel.
6. Wheel. The metal piece you turn your needle down with by hand.
7. Thread guides. Different shaped forms to help the thread to go certain directions, holding the thread in place to create the correct tension.
8. Take-up. (large take-up--small take-up) The oval shape section on the side of your machine that revolves and takes up the thread. It has two parts--the large and small take-up. It forms loop for stitch.
9. Tension discs. Two small metal plates about the size of a quarter, half way down on the side of your machine. The thread goes between them and they create tension on the thread.
10. Take-up spring or check spring. The spring by the tension discs.
11. Tension. The small section on the side of your machine that regulates the tension on the thread. (The combination of the tension discs and check spring.)
12. Needle bar. What your needle fits into.
13. Needle. The long groove of the needle fits to the outside on your left.
14. Presser foot. The foot of your machine.
15. Feeders or feed dogs. The teethlike mechanism under the foot of your machine. They aid in allowing fabric to move under foot.
16. Hook on hook shaft. Where your bobbin and bobbin case fit into the machine.
17. Throat plate. The metal piece that is under the presser foot next to the feed dogs on the flat of your machine.
18. Treadle. The combination of the clutch and brake where you place your foot to make the machine go and stop.
19. Clutch. When you push forward on the treadle with your toe to make the machine go.
20. Brake. When you push back on your heel on the treadle to make it stop.
21. Knee lift. Where your right knee pushes to raise the presser foot of your machine.
22. Stitch regulator. The section on the machine where you regulate the stitch.
23. Pressure screw. The screw on the top of the head where you regulate the pressure on the presser foot.
24. Bobbin. The metal spool holding your thread.
25. Bobbin case. The metal case that the bobbin fits into.
26. Bobbin tension spring. The spring on the bobbin case that creates the tension on the thread.

PARTS AND FUNCTIONS (continued)

27. Light. Verbal explanation.
28. Motor. Verbal explanation.
29. Switch. Where you turn your machine on and off.
30. Attachments. A part that is added to your machine to accomplish a certain operation.
31. Oil wells. Specific places to oil.
32. Hand lift. What you raise the foot of the machine with by hand.

SINGLE NEEDLE LOCKSTITCH


a.
b
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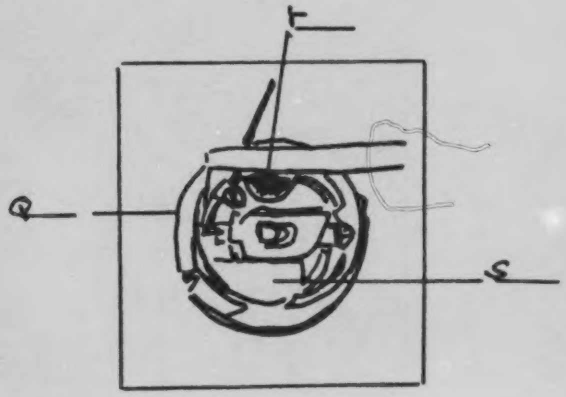


Diagram A

COMPETENCY #2. Observe good work habits.

LEARNING ACTIVITIES

1. Develop an attitude of safety
2. Find spot for books and all extraneous materials so that machine top is free.

Learning Activity #1. Develop an attitude of safety.

1. Keep work area clean.

    A. Be sure aisles are kept clear.

2. Observe safety rules. Refer to handout SAFETY RULES. Study. List as many rules as you can. Check yourself and repeat until you have named at least 12 rules.

Learning Activity #2. Find spot for books and all extraneous materials so that machine top is free.

Adjust knee lift and seat height so you are comfortable at your machine. Your teacher will demonstrate how these adjustments are made.

SAFETY RULES

1. Know the correct cleaning procedure for your machine and observe it.
2. Know the correct oiling procedures for your machine. Oil when necessary--or as your instructor suggests.
3. Turn off power before adjusting or cleaning machine. Be sure the motor is completely stopped before proceeding.
4. Turn off power before inserting, removing, or adjusting a needle.
5. Be sure foot is on treadle only when you are operating the machine.
6. Take proper care of tools that are assigned to you.
7. Develop correct lifting and carrying habits.
8. Turn off your machine immediately if there is a power failure or fire drill.
9. Whenever you leave your machine for any reason, turn off the power.
10. Tie back long hair and remove hanging beads to prevent accidents.
11. Never place fingers at an angle to the hand wheel; if hand must be used, place hand on top of wheel.
12. Keep all materials away from back right of machine to avoid being pulled into belt or bobbin winder.
13. If fire is detected, report it immediately.
14. In case of accident, however slight, inform your instructor at once.

COMPETENCY #3. Thread machine.

LEARNING ACTIVITIES

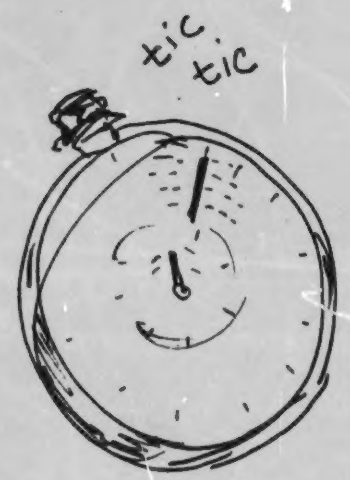
1. Observe teacher demonstration of threading process.
2. Practice threading machine.

Learning Activity #1. Observe teacher demonstration of threading process.

Refer to individual machine threading guide.

Learning Activity #2. Practice threading machine.

1. Continue practice until all threading processes are complete in 30 seconds (use stopwatch).
2. Break thread between cone on thread stand and first guide on machine head. Rejoin by tying double knot. Pull thread through to needle eye. Thread needle. Practice this method.
3. Which of the above methods used less time? How many seconds did you save? Method (2) is used in manufacturing whenever possible.



COMPETENCY #4. Attain ability in machine control.

LEARNING ACTIVITIES

1. Increase speed using start/stop movements.
2. Improve accuracy in stitching exercises.
3. Transfer learnings to fabric control.

Learning Activity #1. Increase speed using start/stop movements.

Your instructor will give you a stack of 60 computer cards or index cards and stopwatch in order to perform the following exercise:

1. Remove machine needle.
2. Divide cards in 2 stacks placing one on each side of sewing area.
3. With foot on treadle ready to go, pick up a card from each stack simultaneously using both hands.
4. Lift presser foot with knee lifter as you place left card over right underneath foot.
5. Press down on treadle, sew length of card, heel back on treadle to brake. (Left hand controls cards as right hand returns to stack.)
6. Count number of cards sewn in one minute.
7. Repeat process until you are able to go through at least 25 pair (50 cards) in one minute.

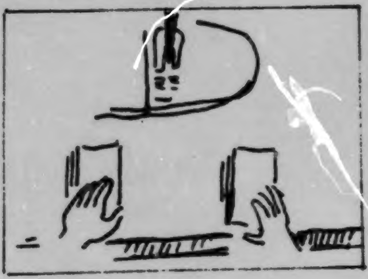


Diagram B

Learning Activity #2. Improve accuracy in stitching exercises.

These exercises work best using a stopwatch and partner. Repeat each exercise at least twice, obtaining additional papers from your instructor. Record performance on EXERCISE RECORD SHEET.

1. Basic Exercise B-1. Stitch with unthreaded machine between two parallel lines. (Place needle back in machine and adjust pressure screw for even feed.)

   A. Place presser foot as indicated on exercise sheet.
   B. Begin stitching between lines, presser foot against line.
   C. Stop at end and replace foot between next pair of lines.
   D. Sew to STOP and record speed.
   E. Repeat for a total of seven times. Target time: 6 seconds for 2 lines.

2. Basic Exercise B-2. Stitch between narrow lines being conscious of start/stop motion.

   A. Place presser foot in position as shown on sheet.
   B. Begin stitching between lines.
   C. Stop at end; repeat two more times.
   D. Record time at the end of third line.
   E. Continue sewing groups of three to end of sheet. Target time: 15 seconds for 2 lines.

3. Basic Exercise B-3. Practice skipping shaded area for accuracy and presser foot control.

   A. Place presser foot on paper as shown.
   B. Stitch short run to shaded area.
   C. With knee lift, slightly lift presser foot so that you are able to slide paper forward.
   D. Slide paper, placing foot on other side of shaded area.
   E. Sew to next shaded area. Repeat process down line. Record time.
   F. Begin at top again, sewing total of 10 lines. Target time: 10 seconds each complete line.

4. Basic Exercise B-4. Back stitch between ¼" horizontal lines.

   A. Begin sewing as indicated.
   B. Sew to lower ¼" line.
   C. Without stopping machine, raise foot slightly with lifter pushing paper back ¼". Backstitch same line.
   D. Release lifter allowing forward stitch.
   E. Repeat length of paper. Record time.
   F. Start again at top of sheet. Make 10 lines. Target time: 12 seconds, one line with 4 back tacks.

5. Basic Exercise B-5. Left and right angle lines are sewn pivoting with needle in paper to turn corner.

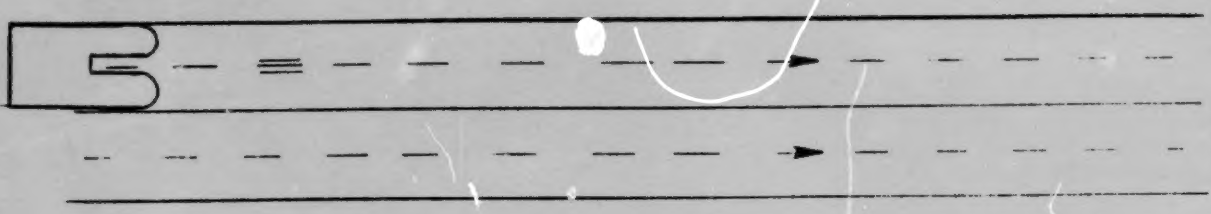
   A. Begin stitching at high speed as indicated.
   B. Stop with needle down (toe treadle with slight movement).
   C. Lift slightly, turning paper.
   D. Stitch remaining 4-6 stitches. Record time.
   E. Repeat length of sheet. Target time: 7 seconds, one line.

6. Basic Exercise B-6. Stitch "S" curves using presser foot as guide.

   A. Begin at upper left of paper as indicated.
   B. Stitch to end of line.
   C. Reverse presser foot, stitching back to left of paper.
   D. Record time. Repeat till you have completed eight units. Target time: 11 seconds, 2 lines.

	- 7		SEC	**B-1**
LAST NAME (PRINT)		CHECKED BY (INIT)	TARGET TIME	EXERCISE NO.

SEWING BASIC EXERCISE — ⊖ WIDE LINES ⊖



STOP

STOP

STOP

STOP

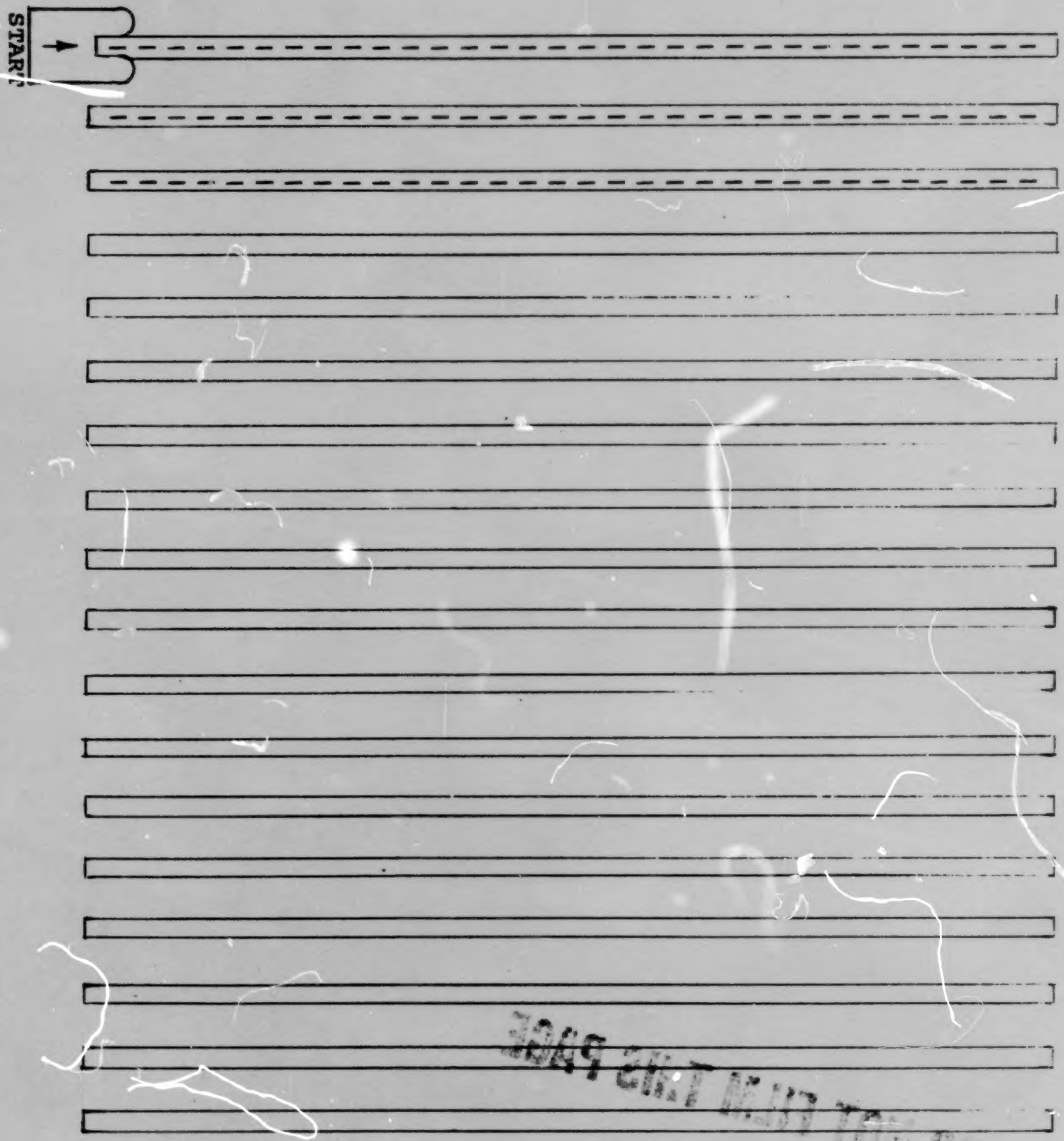
STOP

STOP

STOP

	- -7		SEC	B·2
LAST NAME (PRINT)		CHECKED BY (INIT)	TARGET TIME	EXERCISE NO.

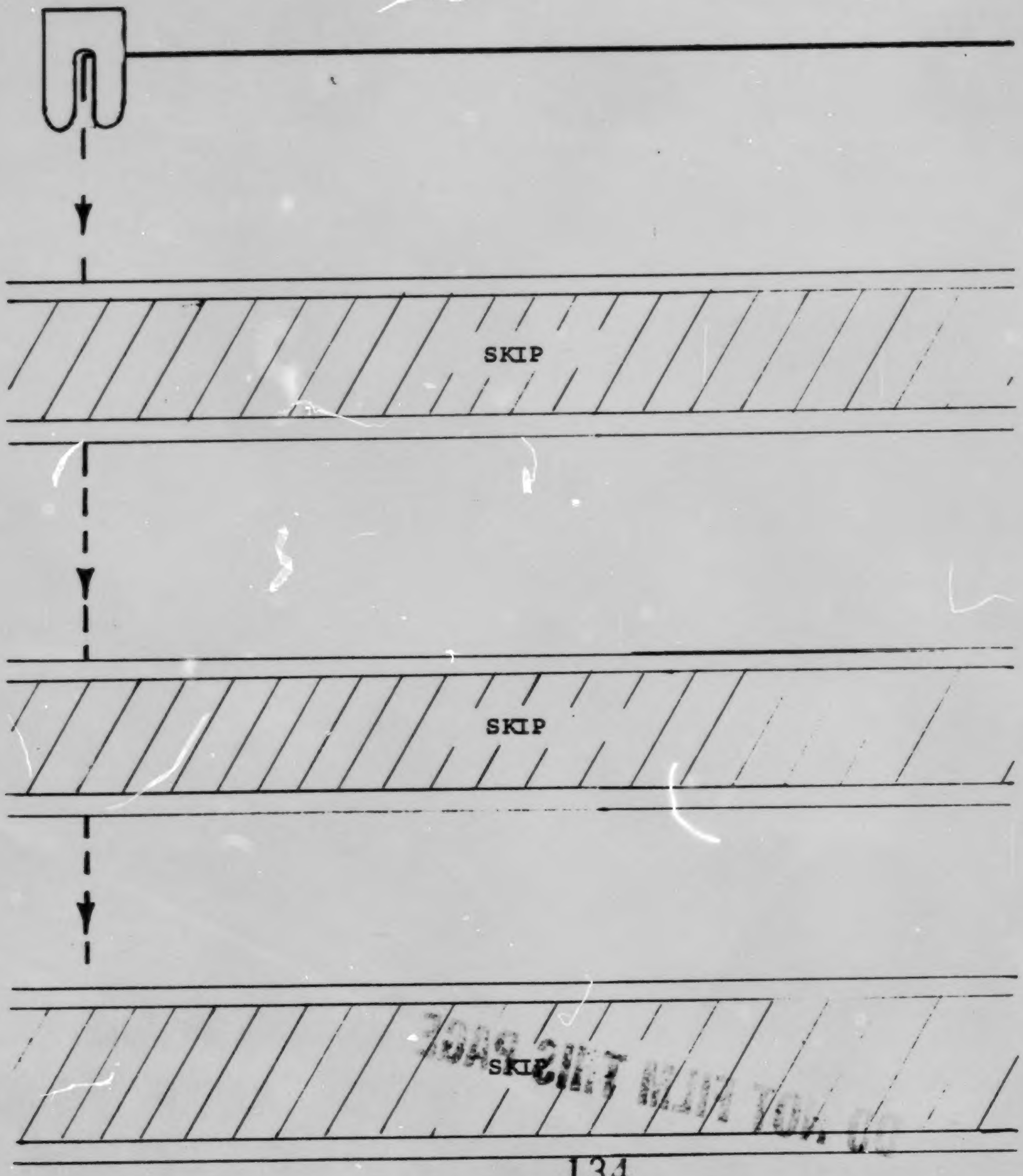
SEWING BASIC EXERCISE — NARROW LINES



SEWING BASIC EXERCISE - B-2 MFG (R-1/12) 8-28-78 1468 (3/7)

	- -7		SEC	B-3
LAST NAME (PRINT)		CHECKED BY (INIT)	TARGET TIME	EXERCISE NO.

SEWING BASIC EXERCISE — ⊗ STOP - START LINES ⊗



	- -7		SEC	B-4
LAST NAME (PRINT)		CHECKED BY (INIT)	TARGET TIME	EXERCISE NO.

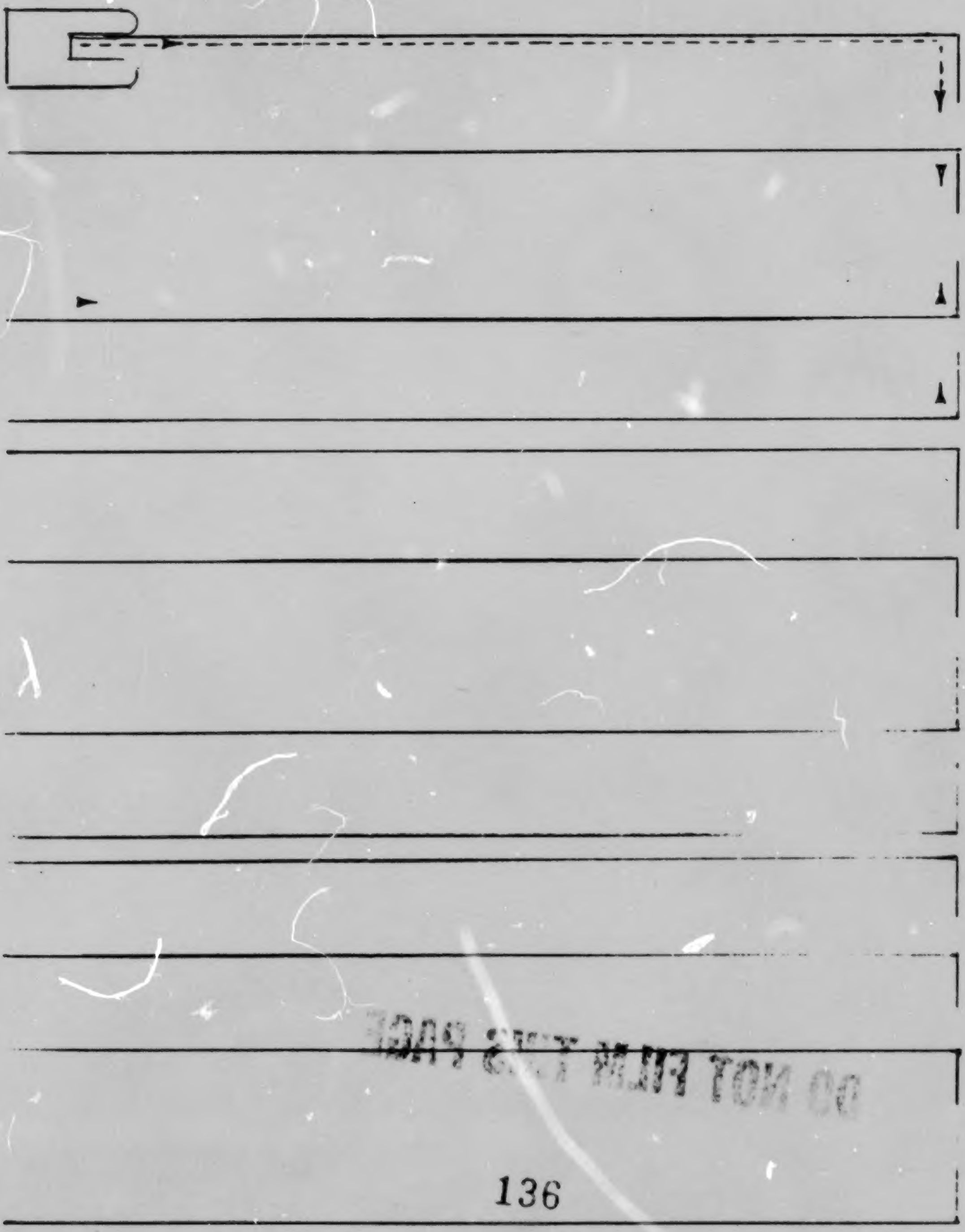
SEWING BASIC EXERCISE — ⊖ BACK STITCH LINES ⊖

START

1/4"

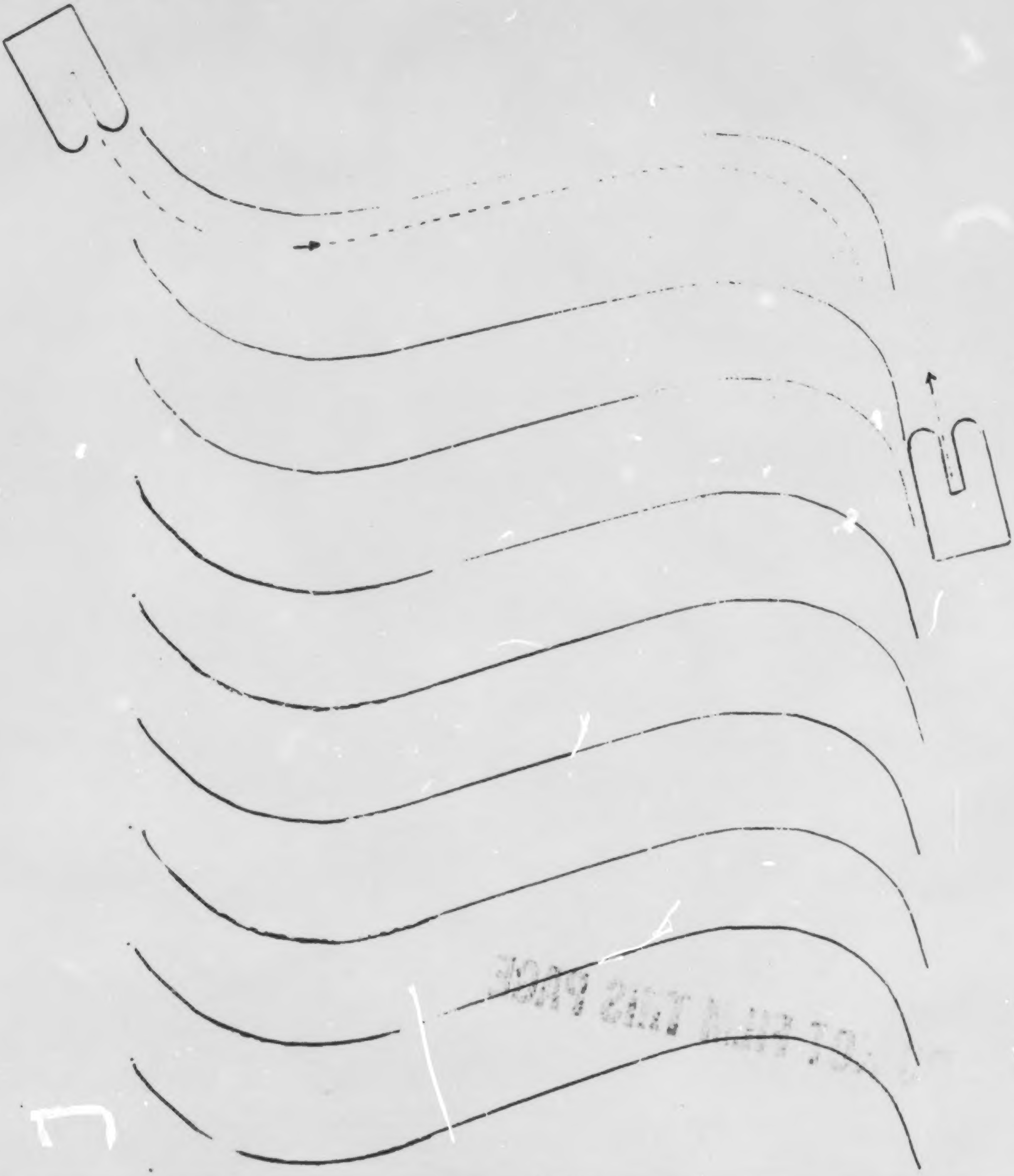
	- -7		SEC	**B-5**
LAST NAME (PRINT)		CHECKED BY (INIT)	TARGET TIME	EXERCISE NO.

SEWING BASIC EXERCISE — RIGHT ANGLE LINES



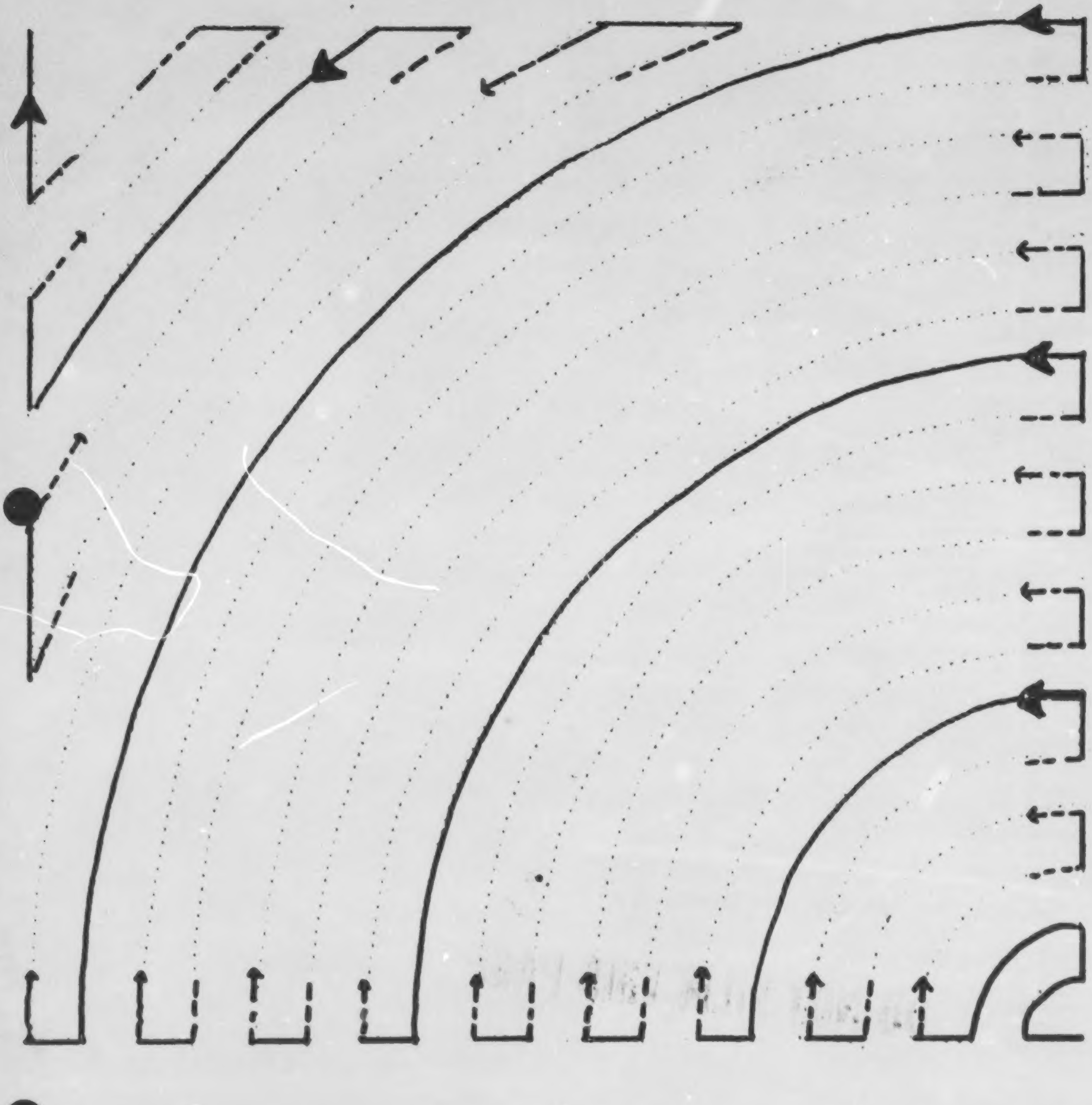
	- -7		SEC	**B-6**
LAST NAME (PRINT)		CHECKED BY (INIT)	TARGET TIME	EXERCISE NO.

SEWING BASIC EXERCISE — ● "S" CURVE LINES ●



B·7

NAME ________________ TARGET TIME ________ ACTUAL TIME ________



____________________ ____________

EXERCISE ORD SHEET

Trial No.	Paper Sewing Exercises							Fabric Exercises			Pocket Set	Quilt Top
	B-1	B-2	B-3	B-4	B-5	B-6	B-7	1	2	3		
1											1	Time
2											2	Misses
3											3	
4											Total	
5												
6												
7												
8												
9												
10												
11												
12												
13												
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20												

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7. **Basic Exercise B-7.** Stitch a maze.

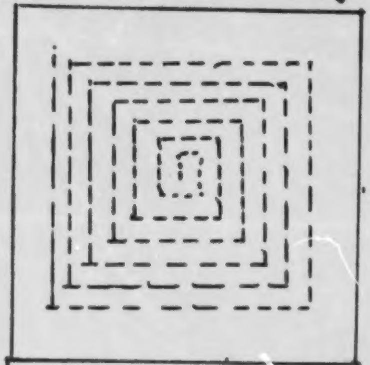
   A. Begin stitching, lower right corner. Stop. Turn.
   B. Continue exercise following stitching lines and arrows. Record time. Target time: 2 minutes.

Learning Activity #3. Transfer learnings to fabric control.

The following three exercises are performed on a 10 x 10" piece of woven fabric obtained from your instructor. These exercises are designed for you to increase accuracy and control of fabric and machine, so do not try to go too fast.

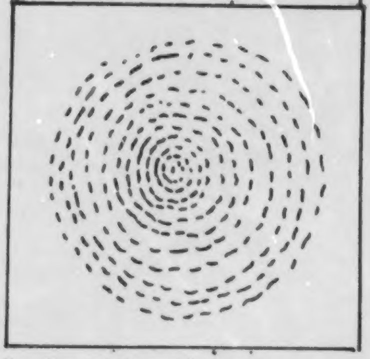
Proceed as follows:

1. A. Beginning at center of one sample piece, stitch 4-6 stitches.
   B. Stop with needle in fabric; make right angle turn.
   C. Continue another 4-6 stitches; make right angle turn.
   D. Stitch 10-12 stitches; turn.
   E. Using presser foot as guide, continue in this manner until you have stitched entire sample. Your sample will look like this:



2. A. Beginning at center of sample, stitch in tight curve the width of presser foot.
   B. Continue stitching in circular fashion until all of sample is stitched. Your sample will look like this:

3. A. Beginning at outer edge of sample, repeat circular motion of (2) except reverse, this time working toward center.



Which of the above exercises was most difficult? Practice these exercises until you feel more confident with your machine.

COMPETENCY #5. Complete industrial type pocket set.

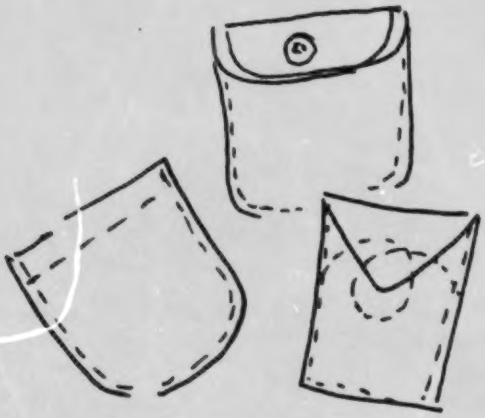
Industrial sewing methods vary a great deal from those we use in home sewing. The following exercise will give you experience in the following operations:

- chaining off
- using presser foot as stitch guide
- edge stitching
- back tacking
- turning square corners
- clipping/stacking
- sight placement

To complete this competency you will need a fabric rectangle 10½" x 18" and 16 "pocket" pieces cut 4" x 3-3/4". Time entire operation.

LEARNING ACTIVITIES

1. Join pockets and topstitch.
2. Edgestitch; clip and stack.
3. Set pockets.



Learning Activity #1. Join pockets and topstitch.

Begin time. Perform the following:

1. Place 8 pocket pieces on each side of stitching area on machine bed as in Figure 1, Diagram C. Stack A has wrong side up. Stack B has wrong side down.

2. Pick up a "pocket" from each stack and stitch ¼" from edge, using presser foot as guide. (Pocket A is placed over pocket B so that right side of fabric is together (Figure 2).

3. Stitch pocket top. Chain.

4. Place second pair under foot.

5. Repeat operation until all 8 pockets are sewn. Record time.

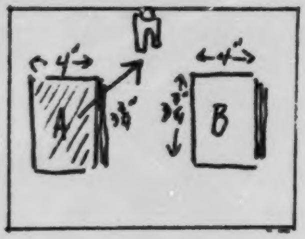


Figure 1

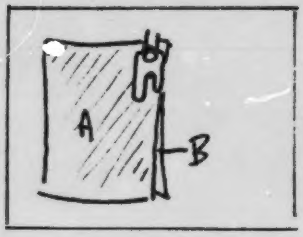


Figure 2

Learning Activity #2. Edgestitch; clip and stack.

Begin time. Perform the following:

1. Taking first pocket in chain of eight, turn to right side. Place under presser foot, using inside of foot as sewing guide (Figure 3).

2. Edgestitch top of pocket, pulling on chain as you do so that seam does not roll.

3. Chain off. Begin next pocket. Stitch in same manner.

4. When eight pockets are sewn, pull back on chain, clipping and stacking in uniform pile. Record time.

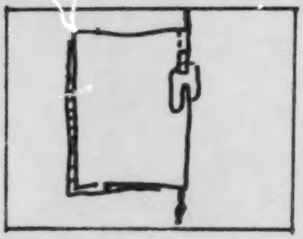
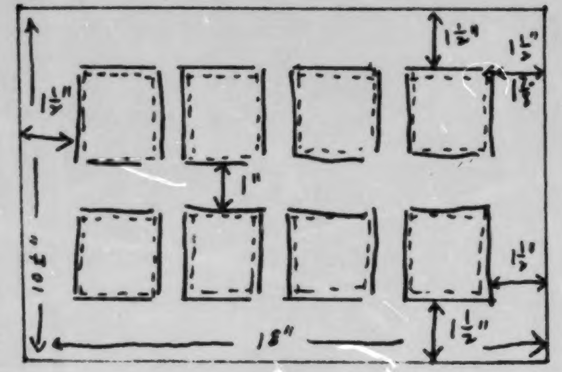


Figure 3

Learning Activity #3. Set pockets.

You will set the eight pockets on the larger fabric piece in two rows of four each. You may mark right side of each pocket placement area in pencil or "eyeball" entire operation. Keep pocket edges parallel to outer fabric edges (Figure 4). (Upper right pocket should be placed 1½" down and 1-7/8" in from fabric edge.) Begin time.



1. Pick up first pocket from stack. Place at upper right corner of sample leaving 1½" margins at top and right.

2. Turn in 3/8" seam allowance on right side. Place edge of fold against inner side of presser foot ¼" from top edge. Back stitch to top edge. Fold up lower edge 3/8" and edge stitch to corner.

3. With needle down turn work. Fold in remaining raw edge 3/8". Stitch to left corner.

4. Pivot. Continue up to top. Back tack. Clip threads.

5. Place second pocket 1" away from first. Continue process until all eight pockets are sewn. Record time.

Add up total time spent setting pockets. Record. Share your total time with other students. Have your teacher or one of the students find the average time of all students. How do you compare with the average?

COMPETENCY #6. Sew baby quilt top.

Here's your chance to use your sewing skills on a FUN project. This quilt top may be made of flannel, small calico prints, or other suitable fabric. You will need two different compatible fabrics of similar weight, 1½ yards each--total 3 yards to complete the top and edging. As you work the project strive for accuracy and speed. It is important that you follow directions for placement of pieces, cutting and stacking for best results (See handout).

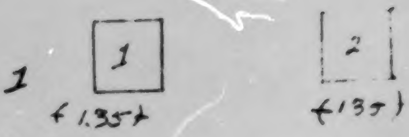
We will refer to your accuracy as the TOLERANCE LEVEL. This is a term used in quality control. The specifications for your quilt are as follows:

Tolerance: one stitch or 1-1/6" at square intersections.
Time : 2½ hours.

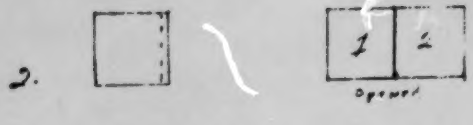
After cutting your 4 x 4' pieces, stack the separate colors with the grain all the same way. Read your instructions carefully. When you are familiar with the instructions, begin time. Record time on completion. Count places where tolerance is greater than allowed. Record number of "misses" where your squares do not meet. Place name on quilt and hand in for your teacher to check.

CRIB-SIZE QUILT PROJECT
FOR INDUSTRIAL SEWING CLASS

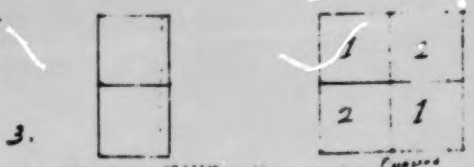
1. Cut 135 blocks, 4 by 4 inches, from two colors of fabric (270 total). Cut blocks on the straight grain of the fabric. This is easier if you use a cardboard block for a pattern.



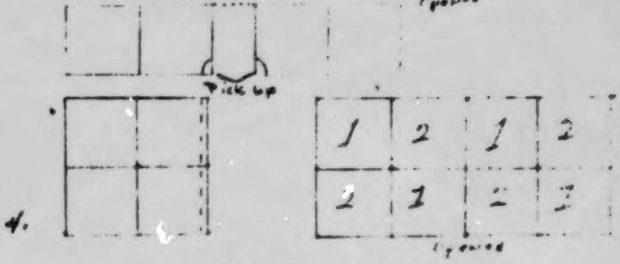
2. Begin timing. Place one stack of colored blocks on the right of the presser foot and the other stack of colored blocks on the left. Make sure the grainlines are running the same direction in each stack so that you sew corresponding grainlines together. Sew a block from each stack together. Repeat until you have 96 blocks in the stacks sewn together. Reserve balance for trim. Clip and stack.



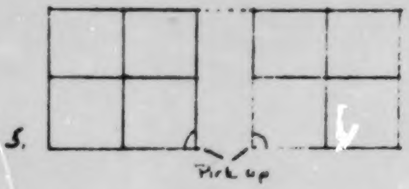
3. Pick up the top piece and turn the first corner UP. Pick up the next top piece and turn the corner DOWN so the colors are alternated and sew together. (Be sure that you start with the same color on top each time.) Repeat until you have completed the stack. Clip and stack every other set of blocks so you leave every two connected together.



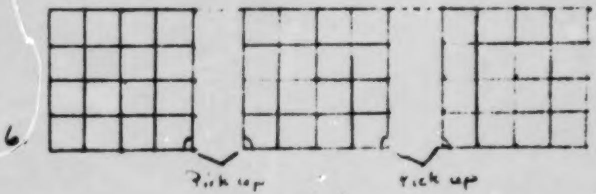
4. Pick up the lower inner corners on each set of blocks and sew together. Repeat until the stack is finished. Clip and stack as you did in step 3.



5. Follow the same procedure for the next chain, clipping every third one. This should give you two sets of blocks.

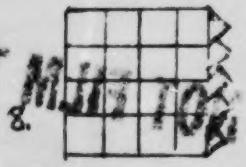


6. Following the same procedure: pick up the lower inside corner and sew together. Repeat. You should now have two sets of 48 blocks sewn together.



7. Sew the two sets of blocks together and your quilt top is completed.

8. To make a picot border, stack remaining blocks as in "2." Fold squares diagonally in half, then in half again. Stitch raw edges closed, alternating colors. Join to right side of quilt, using 5 picots to each 4 squares.



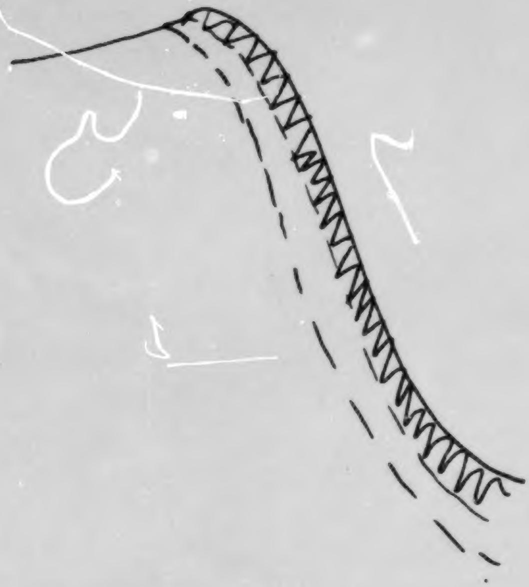
9. When trim is completed, assess your quilt top. Tolerance level is one stitch on all joinings. Count number of missed joinings. Make notations of number of misses plus total construction time. Pin with name on quilt. Hand in.

NOTE: one yard 45 inch fabric will make 99 four-inch blocks.

COMPETENCY #7. Control serger.

LEARNING ACTIVITY

1. Become familiar with serger capabilities.



Learning Activity #1. Become familiar with serger capabilities.

1. Review machine instruction booklet. Refer to all parts of the machine. Notice that instead of a knee-lift, an extra treadle controls the presser foot. Your right foot controls this and your left foot controls the clutch.

2. Follow the threading from each cone on thread stand. Notice where each thread goes through the tension disc. Refer to thread guide and review threading process. It is rarely necessary to rethread machine. Knots may be tied when changing thread color, then new thread may be pulled through to sewing point.

3. Turn on machine. Using scrap fabric sew 2 pieces using a 3/8" seam allowance. Next stitch using a 5/8" seam allowance. Next try a large seam allowance. What happens?

4. Obtain curved fabric pieces from your instructor. Practice stitching curves, striving for smooth runs.

Practice using the machine until you feel comfortable sewing or until another student is ready to take a turn.

COMPETENCY #8. Using hemmer, hem various fabric types.

1. Review machine instruction booklet. Notice threading guide. What is different about this machine in respect to the threading process? Notice the curved needle. Try to thread it using a tweezers.

2. Refer to the dial which says "MORE/LESS." Move the dial noticing the needle area as you do. What happens? The dial controls the "BITE" of the needle into the fabric. (Do not change the stitch length lever--your teacher will have preset this.)

3. A. Obtain a variety of fabric sample cuts from your instructor. (Suggestions: polyknit, medium weight cotton, light weight acetate, wool jersey.)

   B. Fold fabric to simulate hem. Turn on machine. Drop feed to lower in order to accomodate fabric. Place edge to be stitched in groove in order for needle to penetrate fabric. With hands on fabric place foot on treadle and SLOWLY begin to stitch.

   To lock stitch, stop machine as loop is completed. Drop feed, pull back on fabric to break thread.

   C. Practice hemming different fabrics, adjusting needle bite as necessary. Continue until you feel comfortable with machine.

REFERENCES

1. Careers in Industrial Sewing. The Education Committee of the American Apparel Manufacturers Association.
2. Mode O'Day Training Manual, Mode O'Day Manufacturing Company, Inc., 1978.
3. Utah Technical College Industrial Sewing Program.

PERFORMANCE CHECKLIST

	Satisfactory	Not Satisfactory
Competency #1		
Learning Activity #1		
#2		
Competency #2		
Learning Activity #1		
#2		
Competency #3		
Learning Activity #1		
#2		
Competency #4		
Learning Activity #1		
#2		
#3		
Competency #5		
Learning Activity #1		
#2		
#3		
Competency #6		

PERFORMANCE CHECKLIST (continued)

	Satisfactory	Not Satisfactory
Competency #7		
Learning Activity #1		
Competency #8		

SHORT PROJECTS

MATERIAL REQUIRED FOR SHORT PROJECTS MODULE

The teacher should provide these items for student use:

1. Straight Stitch Power Sewing Machine and Equipment
2. Attachments for the Straight Stitch Power Sewing Machines
    a. Elastic foot
    b. Gathering foot
    c. Bias trim foot
    d. Rick-rack foot
    e. Hemmer foot
    f. Top-stitching attachment
    g. Scallop edge template
3. Thread
4. Material cut to specified lengths for each of the techniques listed:
    a. Elastic
    b. Gathering
    c. Bias Trim
    d. Rick-rack
    e. Hemming
    f. Top-stitching
    g. Scallop edge
    h. Plain seams
    i. French seams
    j. Curved seams
    k. Mitered corners
    l. Darts
    m. Straps

The student should provide materials for project made in Competency #4.

SHORT PROJECTS

INTRODUCTION

This module has been written so the student can complete activities individually after the teacher demonstrates proper usage and handling of each attachment. After the student shows proficiency using each attachment he/she may sew projects that require a small amount of time to complete.

This module correlates with other modules that the student should have completed before using this module. The modules are:
    Power Sewing Equipment - Use and Maintenance
    Techniques Used in Power Sewing

Upon completing this module you should be able to:

1. Simulate the teacher demonstrations for the use of the Straight Stitch Power Sewing Machine attachments. You will attach each foot and make five samples for each given size or description.

2. Sew samples and record the time it takes for you to complete each technique. Each technique should be repeated five times and then the time recorded. This should be repeated five times making the total number of times for each technique 25 times.

3. Sew five each of the techniques 5 times for grading. You will be given the technique and the criteria for each technique.

4. Select a project to work on using at least 4 techniques and hand the project in for grading.

PREREQUISITES

The student should demonstrate proficiency in operation of the Straight Stitch Power Sewing Machine.

1. Threading the machine
    a. Thread upper and lower threads in 30 seconds.
    b. Rewind bobbin while stitching.

2. Operation of the machine
    a. Starting and stopping at specific points
    b. Operating the machine with speed and control

3. Lock threads at the end of seams and the beginning of seams.

4. Machine maintainance: Cleaning of machine.

5. Trouble shooting: Solving simple machine problems
    a. Breakage of needle
    b. Top thread breaking
    c. Bottom thread breaking
    d. Tension incorrect
    e. Machine skipping stitches

GRADING

A note to the Teacher:

1. Grading evaluations can be changed to meet the needs of your specific classroom procedures.

2. Points have been given in most instances instead of letter grades. This system works well but can be changed.

3. You may want to develop a criteria for judging the student's performance when working on his/her project. A schedule of activities could be developed by each student and evaluated by the teacher to check if the student is meeting the standards.

4. A listing of sources is included for short projects. You may want to supplement this material with additional items.

COMPETENCY #1. View the teacher demonstrations for the use of the Straight Stitch Power Sewing Machine Attachments. You will attach each foot and make five samples for each given size or description.

LEARNING ACTIVITIES

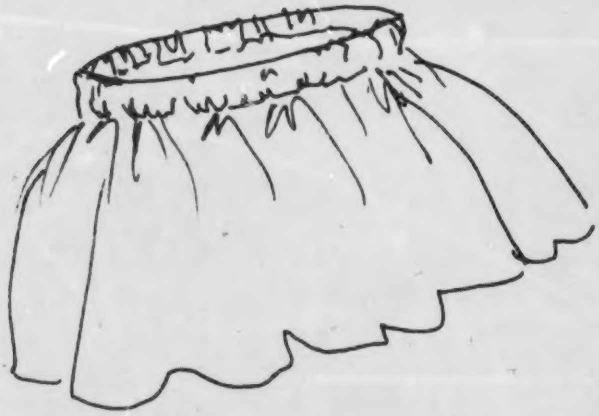
In order to meet this objective you should complete the following:

1. Elastic foot attachment: The student will attach elastic to material with this ratio: 1::1 1/2, 1::2, 1::3.
2. Gathering foot: The student will gather one layer of material to another layer of material. The bottom layer will be gathered to a top layer with these ratios: 1::1 1/2, 1::2, 1::3.
3. Bias trim foot: The student will sew 1 inch, 2 inch and 3 inch folds on placemat size fabric.
4. Rick-rack foot: The student will sew two rows of baby rick-rack on fabric with the rick-rack 1 inch apart.
5. Hemmer foot: The student will hem a 3 foot length of fabric making a 1/8 inch hem or other designated width.
6. Top-stitching attachment: The student will sew 2 rows of top-stitching 1/4 inch and 1/2 inch from the cut edge.
7. Scallop edge template: The student will sew scalloped edges using 2 inch, 3 inch and 4 inch templates.

Learning Activity #1. Elastic attachment: The student will attach elastic to material with these ratios: 1::1 1/2, 1::2, 1::3.

For this activity proceed in this manner:

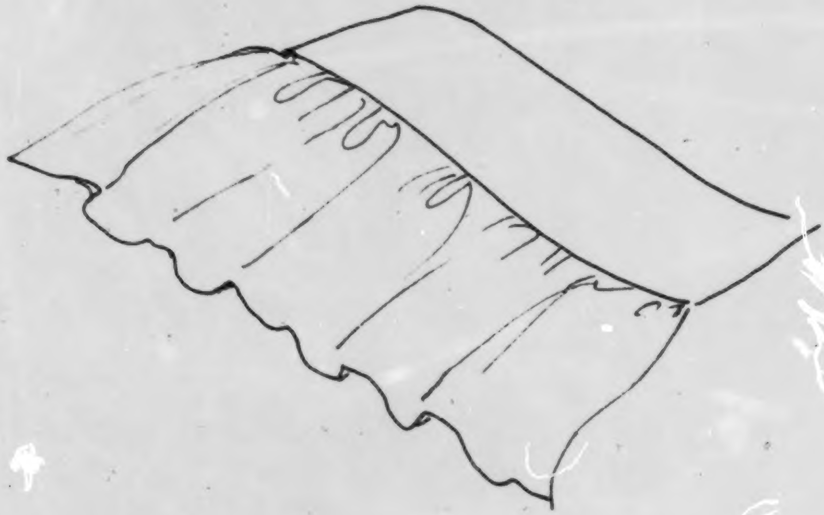
1. Observe the Teacher's demonstration of applying elastic to fabric with the Elastic attachment.
2. Obtain material and elastic in specified lengths. The teacher should provide the materials and elastic.
3. Stitch the elastic to the material using the ratios involved: 1::1 1/2, 1::2, and 1::3.
4. Compare your samples with the Teacher's samples. Evaluate your sample with the Evaluation Sheet.



Learning Activity #2. Gathering foot: The student will gather one layer of material to another layer of material. The bottom layer will be gathered to a top layer with these ratios: 1::1 1/2, 1::2, 1::3.

For this activity proceed in this manner:

1. Observe the Teacher's demonstration of gathering one layer of material to another layer of material.
2. Obtain material provided by the teacher in the specified lengths.
3. Gather the material using the ratios 1::1 1/2, 1::2, and 1::3.
4. Compare your samples with the Teacher's samples. Evaluate your sample with the Evaluation Sheet.



Learning Activity #3. Bias trim foot: The student will sew 1 inch, 2 inch, and 3 inch folds on placemat size fabric.

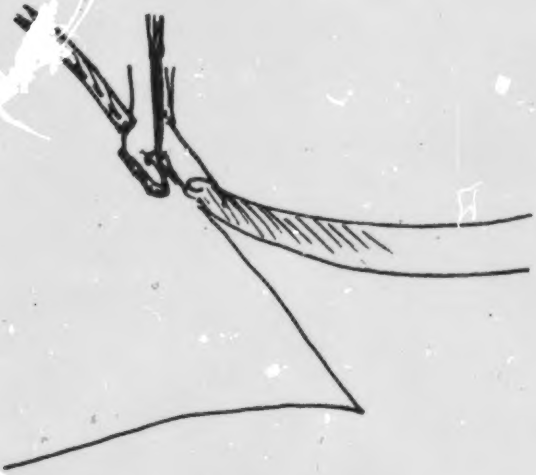
For this activity proceed in this manner:

1. Observe the Teacher's demonstration of attaching Bias trim in 1 inch, 2 inch, and 3 inch folds.

2. Obtain material for attaching bias trim provided by the teacher.

3. Sew the material in the 3 specified widths of bias trim: 1 inch, 2 inch, and 3 inch folds.

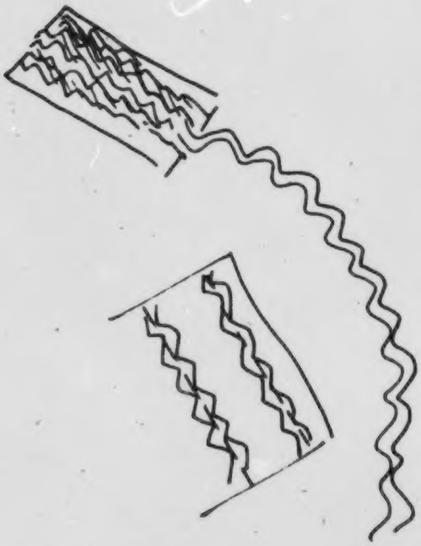
4. Compare your samples with the Teacher's samples. Evaluate your sample with the Evaluation Sheet.



Learning Activity #4. Rick-rack foot: The student will sew two rows of baby rick-rack on fabric with the rick-rack 1 inch apart.

For this activity proceed in this manner:

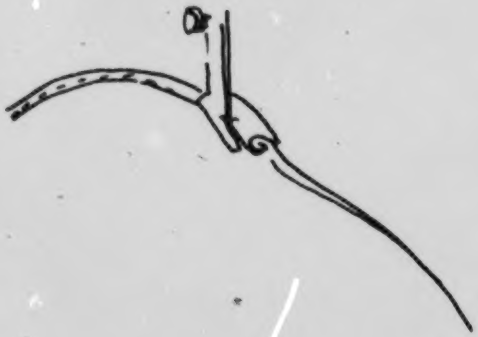
1. Observe the Teacher's demonstration of applying rick-rack on fabric.
2. Obtain material provided by the teacher.
3. Attach the rick-rack in two rows 1 inch apart.
4. Compare your samples with the Teacher's samples. Evaluate your sample with the Evaluation Sheet.



Learning Activity #5. Hemmer foot; The student will hem a 3 foot length of fabric making a 1/8 inch hem or designated width.

For this activity proceed in this manner:

1. Observe the Teacher's demonstration of hemming fabric.
2. Obtain material provided by the teacher.
3. Hem a 3 foot length of fabric with the Hemmer foot making a 1/8 inch hem.
4. Compare your samples with the Teacher's samples. Evaluate your sample with the Evaluation Sheet.



Learning Activity #6. Top-stitching attachment: The student will sew 2 rows of top-stitching 1/4 inch and 1/2 inch from the cut edge.

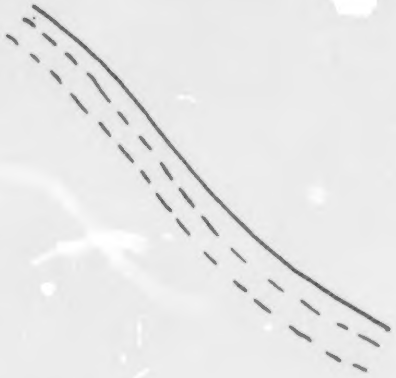
For this activity proceed in this manner:

1. Observe the Teacher's demonstration of top-stitching.

2. Obtain material provided by the teacher.

3. Top-stitch material with 2 rows of top-stitching 1/4 inch and 1/2 inch from the cut edge.

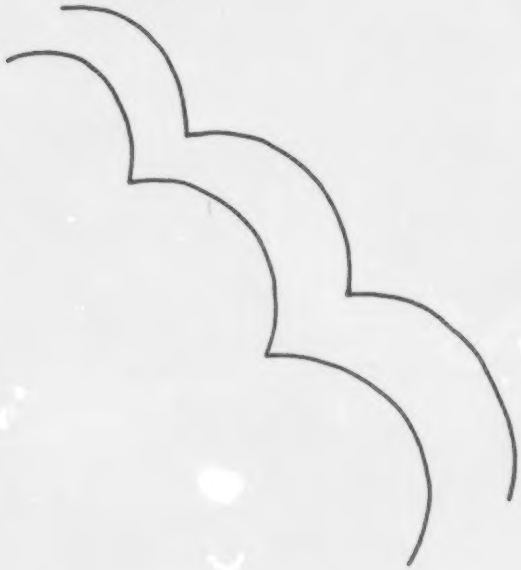
4. Compare your samples with the Teacher's samples. Evaluate your sample with the Evaluation Sheet.



Learning Activity #7. Scallop edge template: The student will sew scalloped edges using 2 inch, 3 inch, and 4 inch templates.

For this activity proceed in this manner:

1. Observe the Teacher's demonstration of sewing scalloped edges.
2. Obtain material provided by the teacher.
3. Stitch scallops with the 2 inch, 3 inch, and 4 inch templates.
4. Compare your samples with the Teacher's samples. Evaluate your sample with the Evaluation Sheet.



EVALUATION SHEET FOR COMPETENCY #1

Student's Name____________________________________

TECHNIQUE	Correct	Incorrect	Comments
1. Elastic: 1::1 1/2			
1::2			
1::3			
2. Gathering: 1::1 1/2			
1::2			
1::3			
3. Bias trim: 1 inch			
2 inch			
3 inch			
4. Rick-rack			
5. Hem: 1/8 inch or other			
6. Top-stitching: 1/4 inch and 1/2 inch from edge			
7. Scallops: 2 inch			
3 inch			
4 inch			

COMPETENCY #2. Time Management. Sew samples and record the time it takes for you to complete each technique. Each technique should be repeated five times and then the time recorded. This should be repeated five times making the total number of times for each technique 25 times.

LEARNING ACTIVITIES

In order to meet this objective you should complete the following:

Use a stop watch and time yourself and record the time. Each technique should be sewn five times, the time recorded and then repeated five times. Total times for each technique is 25 times.

TECHNIQUES

1. Plain seams
2. French seams
3. Curved seams
4. Mitered corners
5. Scalloped edges
6. Application of elastic
7. Gathering one layer to a smooth layer of fabric
8. Application of bias binding
9. Application of rick-rack
10. Darts
11. Top-stitching
12. Straps

Learning Activities: To complete each activity, proceed in the following manner:

1. Observe the teacher's demonstration of each technique.
2. Obtain materials provided by the teacher.
3. Sew five each of every technique 5 times.
4. Choose your best technique of each procedure and attach it to the grading sheet to hand in.

TECHNIQUES

1. Plain seams
2. French seams
3. Curved seams
4. Mitered corners
5. Scalloped edges
6. Application of elastic
7. Gathering one layer to a smooth layer of fabric
8. Application of Bias Binding
9. Application of rick-rack
10. Darts
11. Top-stitching
12. Straps

TIME CHART

Student's Name ______________________________

TECHNIQUES	1	2	3	4	5
1. Plain seams					
a. 3/8 inch					
b. 1/4 inch					
c. 5/8 inch					
d. Long seam					
2. French seam					
3. Curved seam					
4. Mitered corner					
5. Scallops					
6. Elastic					
7. Gathering					
8. Bias Binding					
9. Rick-rack					
10. Darts					
11. Top-stitching					
12. Straps					

COMPETENCY #3. Time and Quality. Sew five each of the techniques 5 times for grading. You will be given the technique and the criteria for each technique.

LEARNING ACTIVITIES

In order to meet this objective you should complete the following:

Sew five each of the techniques 5 times for a total of 25 times for each technique. Choose the best technique and hand it into the teacher for grading.

TECHNIQUES

1. Plain seams
2. French seams
3. Curved seams
4. Mitered corners
5. Scalloped edges
6. Application of elastic
7. Gathering one layer to a smooth layer of fabric
8. Application of bias binding
9. Application of rick-rack
10. Darts
11. Top-stitching
12. Straps

Learning Activities: To complete each activity, proceed in the following manner:

1. Obtain materials provided by the teacher.
2. Stitch each technique 5 times. Record the time you required to sew that technique.
3. Repeat step 3 four more times. You should decrease the time required with each recording of time.
4. Keep track of your time on the Time Chart and hand in the chart to the teacher when all techniques are completed.

1. Plain seams
    a. 3/8 inch width straight stitching
    b. 1/4 inch width straight stitching
    c. 5/8 inch width straight stitching
    d. Long seams, sew 15 inches without changing hand position or slowing machine
2. French seams: Finish 1/4 inch width, first stitching 1/8 inch, second stitching is 1/4 inch, that makes the original seam allowance 3/8 inch.
3. Curved seams: Material is fed evenly around all curves.
4. Mitered corner: Hem must be 1 inch finished width with a right angle seam sewn in the corner.
5. Scalloped edge: Curve must be even. Pivot at inward point with needle in fabric.
6. Application of elastic: Use attachment to stretch elastic as sewn to top.
7. Gathering bottom ruffle: Match notches and make gathers even.
8. Bias Binding: Make curves smooth and edges even.
9. Rick-rack: Stitches must be in middle or rick-rack.
10. Darts: Dart must be tapered smoothly, no pucker at the point of the dart.
11. Top-stitching: Top-stitching must be smooth, uniform and evenly stitched.
12. Straps: Width of straps should be even the length of the strap. They should be turned quickly and when top stitched, stitched evenly.

GRADING SHEET FOR COMPETENCY #3

Student's Name ______________________________

TECHNIQUES	Points Received Low High
1. **Plain seams:** Seams should be even and straight	1 2 3 4 5
2. **French seams:** Finish 1/4 inch width, first stitching 1/8 inch, second stitching is 1/4 inch, that makes original seam allowance 3/8 inch.	1 2 3 4 5
3. **Curved seams:** Material is fed evenly around all curves.	1 2 3 4 5
4. **Mitered corner:** Hem must be 1 inch finished width with a right angle seam sewn in corner.	1 2 3 4 5
5. **Scalloped edge:** Curve must be even.	1 2 3 4 5
6. **Elastic:** Elastic evenly stretched	1 2 3 4 5
7. **Gathering:** Gathers are even	1 2 3 4 5
8. **Bias Binding:** Curves should be smooth and edges even.	1 2 3 4 5
9. **Rick-rack:** Stitches should be in the middle of the rick-rack.	1 2 3 4 5
10. **Darts:** Should be tapered smoothly, no pucker at the point of the dart.	1 2 3 4 5
11. **Top-stitching:** Should be smooth, uniform and evenly spaced.	1 2 3 4 5
12. **Straps:** Should be even in width the length of the strap.	1 2 3 4 5

COMPETENCY #4. Select a project to work on using at least 4 techniques and hand the project in for grading.

LEARNING ACTIVITIES

In order to meet this objective you should complete the following:

1. Select a project to sew that includes 4 techniques learned previously.
2. Develop a plan of work to assemble the project. A contract of this plan will be handed into the teacher.
3. Sew the project. If two or more students are working together, the article should be made several times.

Optional Learning Activity

Free Enterprise may be incorporated into this module. The students should follow the 3 Learning Activities in this objective.

Learning Activity #1. The student should select a project to sew that includes 4 techniques learned previously.

For this activity proceed in this manner:

Read through the list of techniques and suggested projects. Select a project that has 4 techniques included in its construction.

1. Plain seam
    a. ironing board covers
    b. stuffed toys
    c. quilt
    d. lingerie case
    e. skirt
    f. bags

2. French seam
    a. pillow case
    b. English apron
    c. Square tote bag

3. Curved seam
    a. pillows
    b. pockets
    c. toys
    d. placemats
    e. oven mitt
    f. hat

4. Mitered corners
    a. scarf
    b. table cloth
    c. back pack

5. Scalloped edges
    a. placemats
    b. table cloth
    c. apron
    d. napkins
    e. scarf

6. Elastic application
    a. Children's pants
    b. toaster cover
    c. lingerie

7. Gathering
    a. skirt
    b. English apron
    c. apron

8. Bias binding
    a. bib
    b. placemats
    c. pot holders
    d. tool or equipment storage bags
    e. jewelry bag

9. Rick-rack
    a. apron
    b. childrens dress
    c. toys
    d. placemats
    e. tablecloth
    f. napkins

10. Darts
    a. swimsuit or halter top
    b. hat
    c. slip

11. Top-stitching
    a. patch pockets
    b. tablecloth
    c. placemats
    d. quilt
    e. hat

12. Straps
    a. tote bag
    b. storage bag
    c. purse
    d. halter
    e. back pack
    f. apron

Learning Activity #2. The student will develop a plan of work to assemble the project. A contract of this plan will be handed into the teacher.

For this activity proceed in this manner:

1. List what project you have selected to sew: ______________________.

2. List the materials that will be required to complete the project:
   a. ______________________
   b. ______________________
   c. ______________________
   d. ______________________
   e. ______________________
   f. ______________________

3. List the steps of construction for your project from start to finish.
   a. ______________________
   b. ______________________
   c. ______________________
   d. ______________________
   e. ______________________
   f. ______________________
   g. ______________________

4. Read through the Contract, fill out all items listed, and hand the Contract into the teacher for approval.

   You are required to contract for the work you will be doing in class. What you sew, how you sew it, and what you do with it, will be your own creation from scratch to the finished product. You will be functioning as the designer, buyer, seamstress, advertiser, and seller of what you produce.

Learning Activity #3. The student will sew the project. If two or more students are working together, the article should be made several times.

For this activity proceed in this manner:

1. Obtain Contract from Teacher. She should give her "okay" before you proceed.
2. Purchase materials required for the project.
3. Follow your plan of work and assemble the project. Several items should be made for mass production.
4. Attach the grading sheet to your project and hand it into the teacher.

CONTRACT

Student's Name ______________________ I do hereby agree to produce this project using the skills I have developed for mass production.

1. List all persons names that will be involved in constructing your project:

   ____

2. List what project you have selected to sew and the techniques involved:

   a. Project: ______________________

   b. Construction Techniques:

      1. ______________________
      2. ______________________
      3. ______________________
      4. ______________________

3. List the materials that will be required to complete the project and their cost:

	Material	Amount	Cost
a.			
b.			
c.			
d.			
e.			
f.			

4. List the steps of construction for your project from start to finish.

   a. ______________________

   b. ______________________

   c. ______________________

   d. ______________________

   e. ______________________

   f. ______________________

GRADING SHEET FOR PROJECT

Student's Name______________________________

Project________________________________

Techniques: Points

1.__________________________________ ________

2.__________________________________ ________

3.__________________________________ ________

4.__________________________________ ________

Finished Project: Meets standards taught in demonstrations. ________

Project selection: ________

Steps in construction plan followed: ________

Contract completed: ________

Total ________

Comments:

RESOURCES FOR SEWING PROJECTS

1. Coats, E. Clark, Inc., Educational Bureau, New York, N.Y. 10022.
2. Forecast for Home Economics, "Teaching Techniques," March, 1978, p. 51.
3. Laird, Jane, 1050 South 800 East, Orem, Utah 84057. "Single-Needle Sewing Projects," Units I-X.
4. Talon Consumer Education, 41 East 51st Street, New York, N.Y. 10022.

PERFORMANCE CHECKLIST

	SATISFACTORY	NOT SATISFACTORY
Competency #1		
Learning Activity #1		
#2		
#3		
#4		
#5		
#6		
#7		
Competency #2		
Learning Activity #1		
#2		
#3		
#4		
#5		
#6		
#7		
#8		
#9		
#10		
#11		
#12		

PERFORMANCE CHECKLIST (Continued)

	SATISFACTORY	NOT SATISFACTORY
Competency #3		
Learning Activity #1		
#2		
#3		
#4		
#5		
#6		
#7		
#8		
#9		
#10		
#11		
#12		
Competency #4		
Learning Activity #1		
#2		
#3		

NEEDLETRADE PRODUCTION SIMULATION

NEEDLETRADE PRODUCTION SIMULATION

Prerequisite:

Before beginning this module, you must have completed the Short Projects Module and all preceding modules. This module may be utilized for the construction unit in the Short Projects Module.

Philosophy:

Utah high school students need marketable skills upon graduation. This is true particularly for those not planning to attend college. Power sewing techniques are marketable skills; there are employment opportunities in the many sewing factories in the state. Every factory has different requirements, sewing machines vary, products and therefore number of steps vary. Learning the basics will be helpful, thus eliminating the need for prolonged factory training.

Students need to learn the types of machines available for general use. They must also learn that earnings depend on skill in manipulating the work and reducing time required to perform each operation. Accuracy, speed, and coordination of movements are essential in production sewing.

Upon completing this module, students should be able to:

1. Increase skills needed to operate power sewing equipment efficiently.
2. Explore various assembly line techniques.
3. Be aware of how a worker's competency, speed, and accuracy relate to pay, advancement, and company profit.
4. Perfect skills in time/motion economy.
5. Acquire skills in using production techniques for the construction of sewn products.

COMPETENCY #1. Increase skills needed to operate power sewing equipment efficiently.

LEARNING ACTIVITIES

1. Study the hand and motion positions in simple, straight-line stitching to see how you can most effectively feed construction pieces through your machine.
2. With a partner, complete a time/motion exercise using a stopwatch to determine the amount of time you take for each process.

Learning Activity #1. Study the hand and motion positions in simple, straight-line stitching to see how you can most effectively feed construction pieces through your machine.

Observe your instructor demonstrate hand and motion positions for construction pieces and answer the following questions:

1. How were fabric pieces laid out on the machine?
2. Exactly how did the instructor grasp pieces?
3. How were pieces positioned on machine?
4. Was there an observable work rhythm?
5. How were sewn pieces disposed of?
6. How much time elapses between picking-up and disposing?

Learning Activity #2. With a partner, complete a time/motion exercise using a stopwatch to determine the amount of time you take for each process. Use the attached chart. Work with a minimum of handling.

You and your partner will alternate timing one another. Sew as fast as possible, from beginning to end, at a constant speed. Make only designated stops. In learning skills, repetition leads to greater efficiency.

1. Sew, using correct hand-motion positions in the following simple operations:
   a. On one of the 9" squares of fabric provided, stitch 10 parallel lines straight down in rows, using smooth deliberate motions, and avoiding jerks and stops. Use presser foot as distance guide. Continue procedure, using ten 9" squares, chaining them together. Clip and stack. Record information on TIME/MOTION PRACTICE SHEET.
   b. On another, stitch 10 curved lines using presser foot as distance guide. Continue procedure, using ten 9" squares, chaining them together. Clip and stack. Record information on TIME/MOTION PRACTICE SHEET.
2. Be aware of the following: (answer in complete sentences)
   a. How can you best control both fabric and machine for accuracy?
   b. How can you best position your work for a minimum of handling?

TIME/MOTION PRACTICE SHEET

Timed exercise, with partner: attach to samples. Have instructor check.

Name______________________________

Date______________________________

Procedure	time begun	time finished	time used
parallel lines			
sample one			
sample ten			
curved lines			
sample one			
sample ten			

Techniques - with your partner, evaluate your work. Use complete sentences.

Did you improve your time between sample one and sample two in each category?

Were you aware of position and motion? What worked best for you?

Did you maintain a constant speed?

Did you stop only at designated stops?

How accurate were you?

What can you do to improve?

COMPETENCY #2. Explore various assemblyline techniq

LEARNING ACTIVITIES

1. Shadow a production operator on the job.
2. Cite the importance of quality control in relation to the end product as well as a company's reputation.

Learning Activity #1. Shadow a production operator on the job.

Your teacher can help you find such a person through BICEP (Business and Industry Community Education Program), or through a cooperative local manufacturer.

1. Write a summary of experiences in observing and interviewing this (and other) jobholder(s). See guidesheet OBSERVING AND INTERVIEWING JOBHOLDER.

2. While at the manufacturer's establishment, find out how that company controls production quality. Use this information to complete Learning Activity #2.

Learning Activity #2. Cite the importance of quality control in relation to the end product as well as a company's reputation.

1. Discuss with classmates various methods of quality control observed on field trip to manufacturer. Answer in complete sentences.

   a. What other procedures might be incorporated?

   b. Do you think that the amount of quality control varies with the market value of the product?

2. Quality control involves more money put out by the company for salaries, machinery and time.

   a. Do you see where the company might benefit to cut their quality control measures?

   b. Why or why not?

GUIDESHEET: OBSERVING AND INTERVIEWING JOBHOLDER

Name________________________________

Date________________________________

Name of person shadowed

Company name

Company address

Job performed

What kind of training or preparation did this person have for this job?

1. What are the prospects for advancement?

2. Will the company train or pay for further training?

3. Tell the work flow in the operation this person performs.

4. What work preceded this operation?

5. What work follows this operation?

6. What special skills or aptitudes qualify this person for this job?

7. How do you relate to this job as a career? Tell your interests, strengths, and weaknesses as you see them.

COMPETENCY #3. Be aware of how a worker's competency, speed, and accuracy relate to pay, advancement and company profit.

LEARNING ACTIVITIES

1. Interview a person from the garment industry, or invite this person to speak to your class.
2. Define piecework and discuss the need for the piece-rate system.

Piecework is.......

Learning Activity #1. Interview a person from the garment industry, or invite this person to speak to your class.

Learning Activity #2. Define piecework and discuss the need for the piece-rate system.

COMPETENCY #4. Perfect skills in time/motion economy.

LEARNING ACTIVITIES

1. Practice efficiency in getting and disposing of pieces.
2. Break stitching procedure into component parts.

Learning Activity #1. Practice efficiency in getting and disposing of pieces.

1. Obtain sample garment parts from instructor to use for this exercise. Decide how you would stitch pieces for maximum efficiency.

2. Practice economy of motion.
   a. Reach to stack of fabric.
   b. Grasp top piece.
   c. Move parts to presser foot.
   d. Position parts under presser foot.
   e. Sew.
   f. Dispose of sewn material.
   g. Repeat, developing a rhythm as you work.

Learning Activity #2. Break stitching procedure into component parts.

1. With a partner, time performance with a stopwatch to find the particular element(s) retarding efficiency.

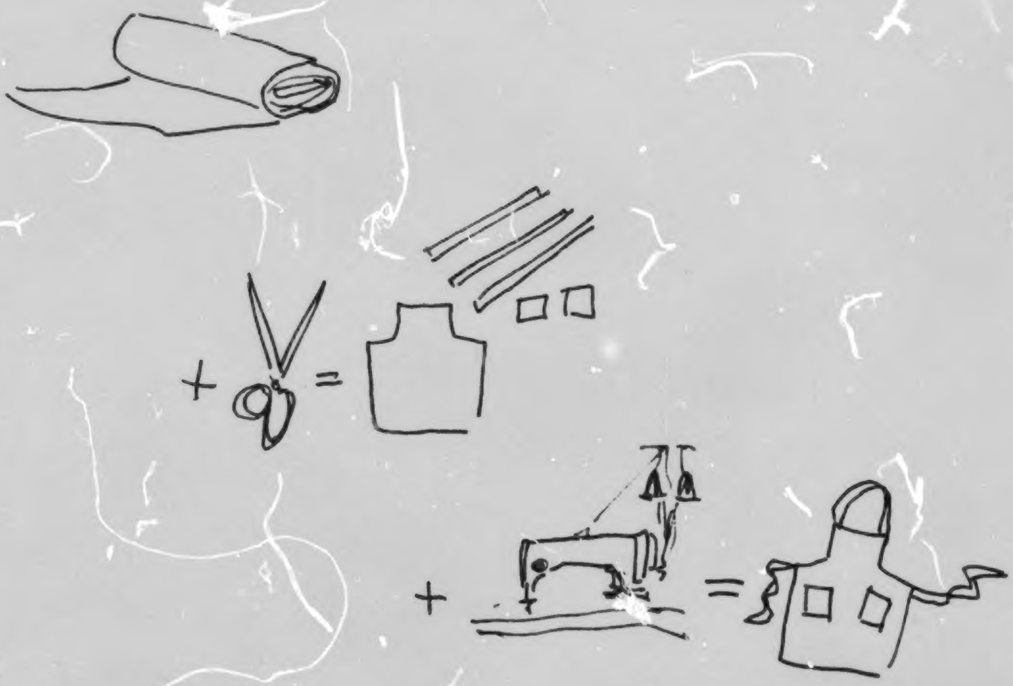
2. Design your work layout using the rectangle 3" x 4" for the sewing machine table area. List each step used from start to finish in handling one complete construction operation.

WORK LAYOUT

COMPETENCY #5. Acquire skills in using production techniques for the construction of sewn products.

LEARNING ACTIVITIES

1. With your class or teacher, decide on a project to construct in class: i.e., apron, tote-bag, Christmas stocking, etc.
2. Define the vocabulary of the production assembly line.
3. Make a production plan for your project.



Learning Activity #1. With your class or teacher, decide on a project to construct in class: i.e., apron, tote-bag, Christmas stocking, etc.

1. Describe your project. Draw a picture or include pattern.
2. Discuss basic construction operations. Which machines will you use? Which processes must be sewn before another?

Learning Activity #2. Define the vocabulary of the production assembly line.

Discuss the following terms with class, using your field trip as a reference. Write out the definitions.

assembly line production

bartacking

bundling

finishing

flow chart

hemmer

inspection

ticketing

Learning Activity #3. Make a production plan for your project.

1. Design a flow chart for your project explaining each procedure in production. Use guide sheet: THINGS TO CONSIDER FOR ASSEMBLY LINE CONSTRUCTION PROJECT as a guide.

2. Cite the importance of quality control.

   a. At what points in the flow chart of construction will quality be inspected?
   b. Identify errors to watch for when inspecting garments.

3. Prepare a list of steps for a sewing machine operator to follow in completing an operation.

4. Set up classroom as production simulation. Apply your plan to construct project. Complete project.

5. Evaluate production operation.

   a. How successful was your production plan?
   b. What procedures would you change to:

      1. increase time/motion efficiency?
      2. improve quality of product?

THINGS TO CONSIDER FOR ASSEMBLY LINE CONSTRUCTION PROJECT

1. Develop a pattern and check with teacher.
    a. Keep pattern simple.
    b. Consider best use of fabric widths.

2. Determine best fiber content and weave for project.
    a. Shop at least three stores to compare prices.
    b. Choose which fabric you would use.

3. Cutting:
    a. Position pattern for best use of fabric.
    b. Determine comfort: should cutter stand or sit? Avoid back strain.
    c. Determine how many can be cut at one time, with accuracy.

4. Marking
    a. Consider the various methods of marking.
    b. Choose how you will mark and explain why you have chosen this method.

5. Bundling
    a. Determine how many pieces can be stacked for most efficient handling.

6. Stitching
    a. Think through and then practice most efficient flow.

7. Inspecting
    a. Determine at which points you will inspect.
    b. Check machine tension
        straightness of stitching
        bartacks and reinforcements

8. Finishing
    a. Buttons, snaps, ties
    b. Applied fabric finishes

9. Pressing
    a. During construction
    b. Final

10. Final inspection, and/or packaging, labeling, pricing.

Optional Experience: Determine costs and sell this project.

REFERENCES

1. Granite School District Secondary Instructional Program for Home Economics, grades 10-12, 1977.

2. Home Economics Education Human Development Modules, Samples for Levels III, IV and V, The University of the State of New York, State Education Department, Bureau of Occupational Education Curriculum Development. 1977.

3. Home Furnishing Aide, Home Economics Cooperative Education, Texas Technical University, Lubock, Texas, 1976.

4. Mr. Mark Stoner, Pyke Manufacturing Company, Salt Lake City, Utah, 1979.

5. Ms. Annette J. Fraser, President, Utah Needlecraft Industries Association.

PERFORMANCE CHECKLIST

	Satisfactory	Not Satisfactory
Competency #1		
Learning Activity #1		
#2A		
#2B		
Competency #2		
Learning Activity #1A		
#1B		
#2A		
#2B		
Competency #3		
Learning Activity #1		
#2		
Competency #4		
Learning Activity #1A		
#1B		
#2A		
#2B		

PERFORMANCE CHECKLIST (continued)

	Satisfactory	Not Satisfactory
Competency #5		
Learning Activity #1A		
#1B		
#2		
#3A		
#3B		
#3C		
#3D		
#3E		

DRAPERY MAKING

DRAPERY MAKING

The occupation of drapery making is suggested for the student who has a strong interest in sewing related occupations. A student employed in a drapery workroom would need a reasonably high degree of skill in sewing. It is recommended that at least one semester in clothing be required of students training in this area. A student completing this module at designated level of performance would be equipped with entry level skills for employment in a drapery workroom. Advancement in this area would depend on the degree of interest and ability displayed by the student.

The purpose of this module is to acquaint the student in selection of fabrics, window styles, construction techniques, proper machine and equipment use and care for drapery making.

Upon completion of this module the student should be able to:

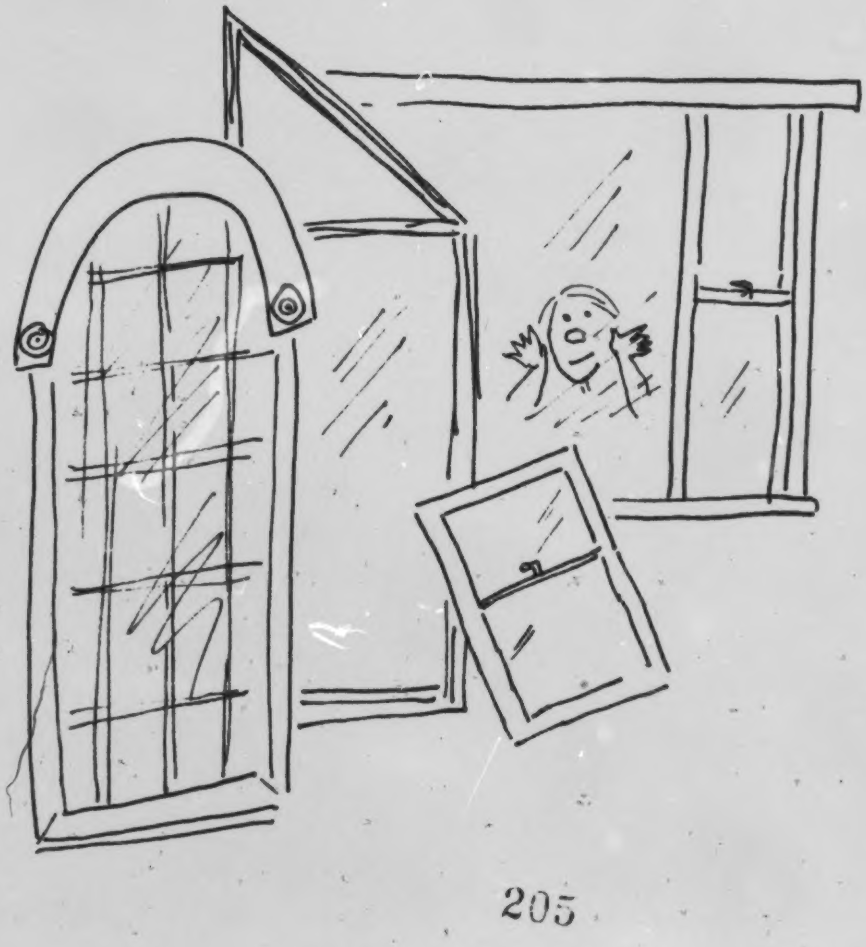
1. Identify various types of windows.
2. Name types of window treatments appropriate for specific types of windows.
3. Apply elements, principles, and types of design to various types of drapery treatments.
4. Select the appropriate tools and equipment used in a drapery making workroom.
5. Follow work order forms for construction of window treatments.
6. Measure and cut drapery fabrics.
7. Construct drapery samples using appropriate techniques.

COMPETENCY #1. Identify various types of windows.

LEARNING ACTIVITIES

In order to meet this competency the student should be able to:

1. Describe the various types of windows in homes.
2. Identify the parts of a window.
3. Locate examples of the types of windows.



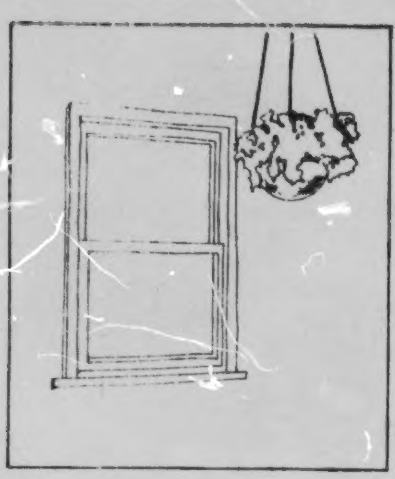
Learning Activity #1. Describe the various types of windows in homes.

The window is a noticeable element in the design of any building. Modern architecture has introduced many new types of windows. The size and type of the window and the style of the architecture determine the kinds of windows used. As you work with window treatments you will need to know the types and functions of windows to determine the best decorative treatment for each.

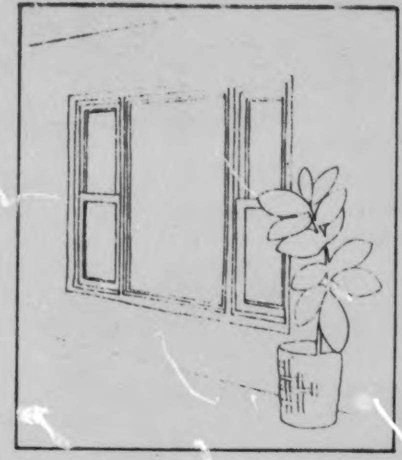
The students will divide into groups and brainstorm to think of different kinds of windows found in homes. Draw sketches of the windows. Listen as the teacher names the windows sketched. List the different types of windows. This list should include double-hung windows, double windows, dormer windows, casement windows, clerestory windows, arched windows, ranch or strip windows, and sliding glass doors.

The student will view transparencies of the different types of windows and list which kind or kinds are found in their homes.

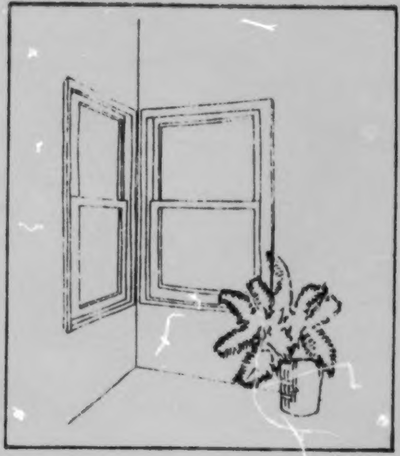
The students will view filmstrip from Kirsch.



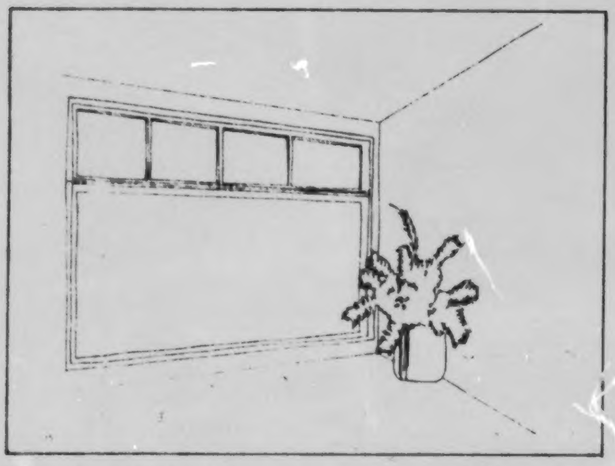
The single. The most common type. No problems with function. It's simple to make it look larger.



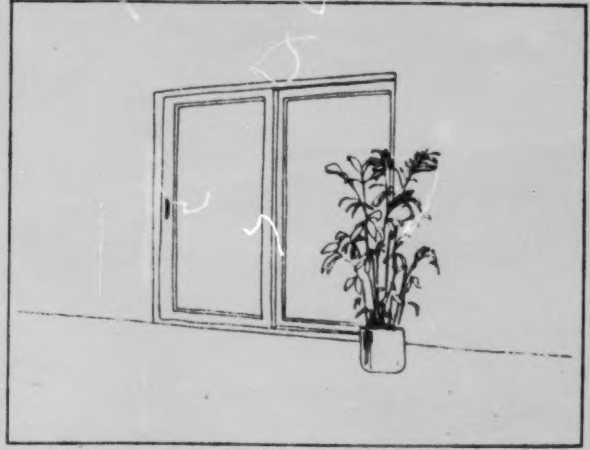
The picture. Frames a view. If it's nothing special or you need privacy, treat it so you have a choice.



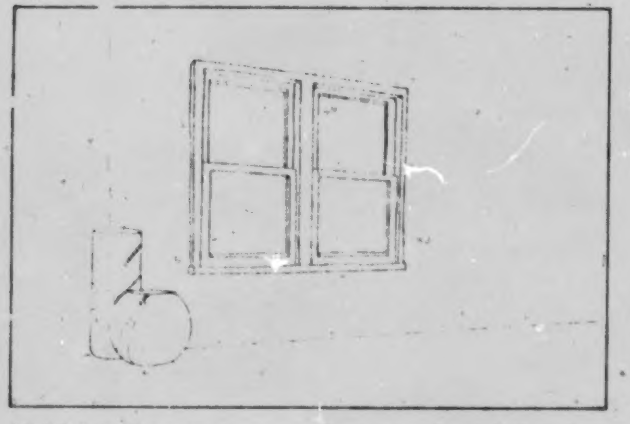
The corner. Just remember you're dealing with two windows. Use two matching sets of rods and fabric.



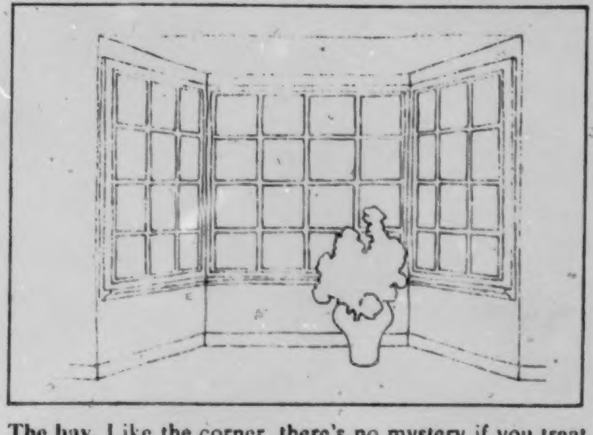
The glass wall. So pretty, so revealing. So much sun or murk to see. And energy to slip away. Don't leave it bare.



The sliding door. Another mass of glass. Treatments go high and wide so that they don't interefere with function.



Multiples. Turn two or more into one visual unit — by treating them as a single or with two identical treatments.



The bay. Like the corner, there's no mystery if you treat the bay as three individual windows.

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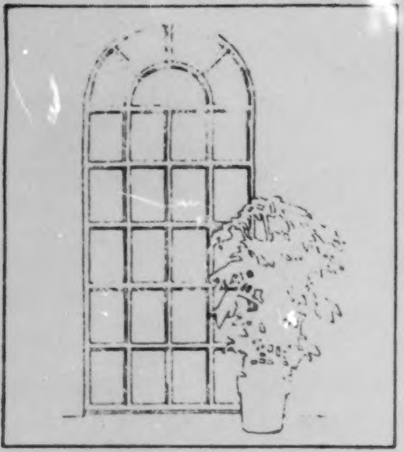
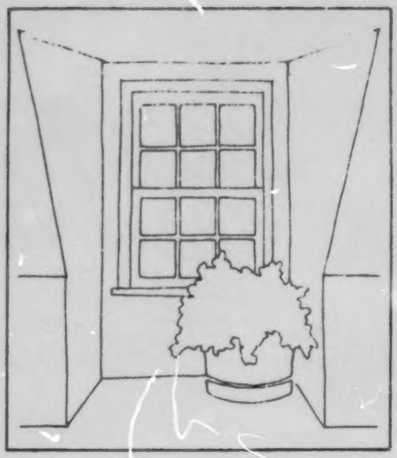
Diagram A

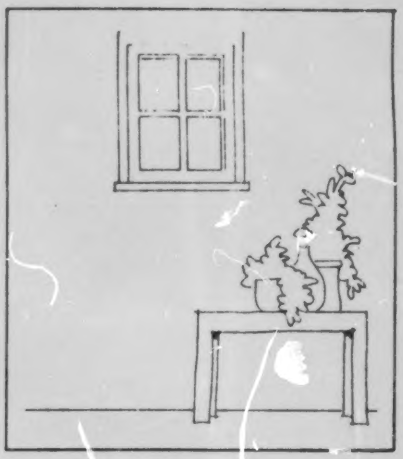
WINDOWS THAT NEED SPECIAL HANDLING



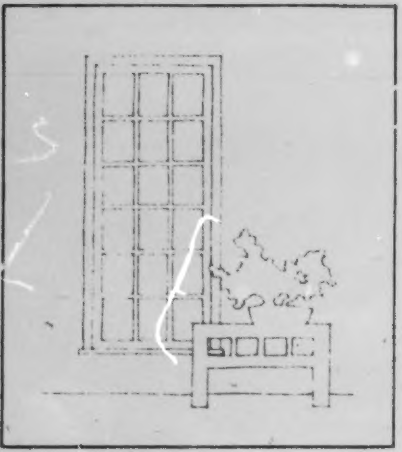
The arch. Its shape is much too beautiful to change. The trick is to dress it practically as well.



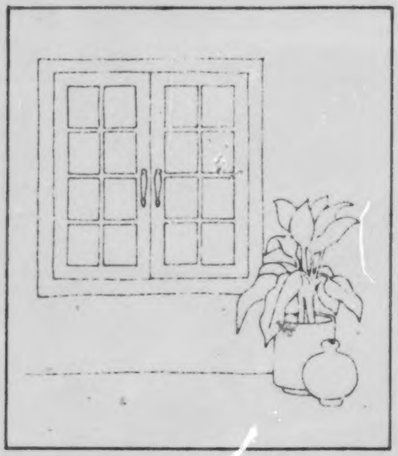
The dormer. Lack of wall space, "tunnelled" light and odd angles are the obstacles to overcome.



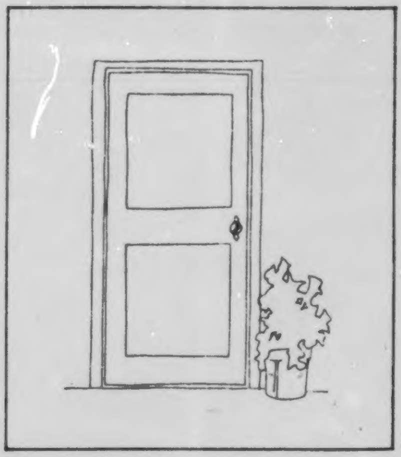
The small one. Badly proportioned and shy on light. The best dress disguises the first, keeps light available.



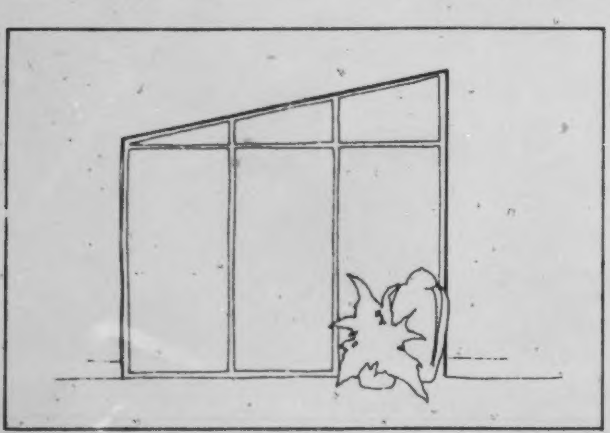
The tall one. Consider proportion as well as function. Do you want vertical lines or horizontals?



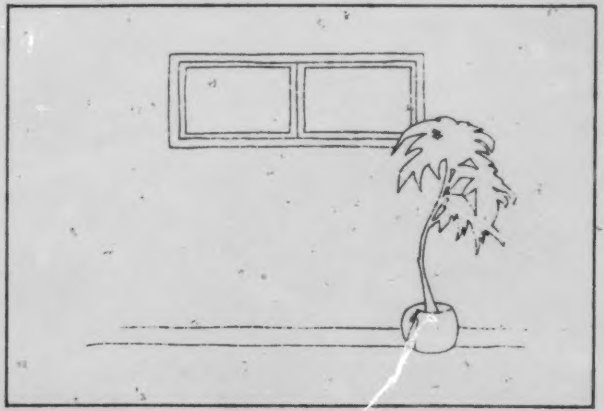
Casements that swing in. If the window will be used, the treatment must not interefere with function.



Doors with windows. Like casements, doors swing — but more often. Your treatment must be anchored down.



The slant. Like the arch, this shape is most attractive. The question — to cover up the top or leave it bare?



The strip. Too long, too shallow, too high on the wall. Consider furniture placement as you solve this one.

Diagram B

Learning Activity #2. Identify the parts of a window.

Knowing the parts of a window is important in selecting a window treatment. The fundamental parts of window are illustrated below.

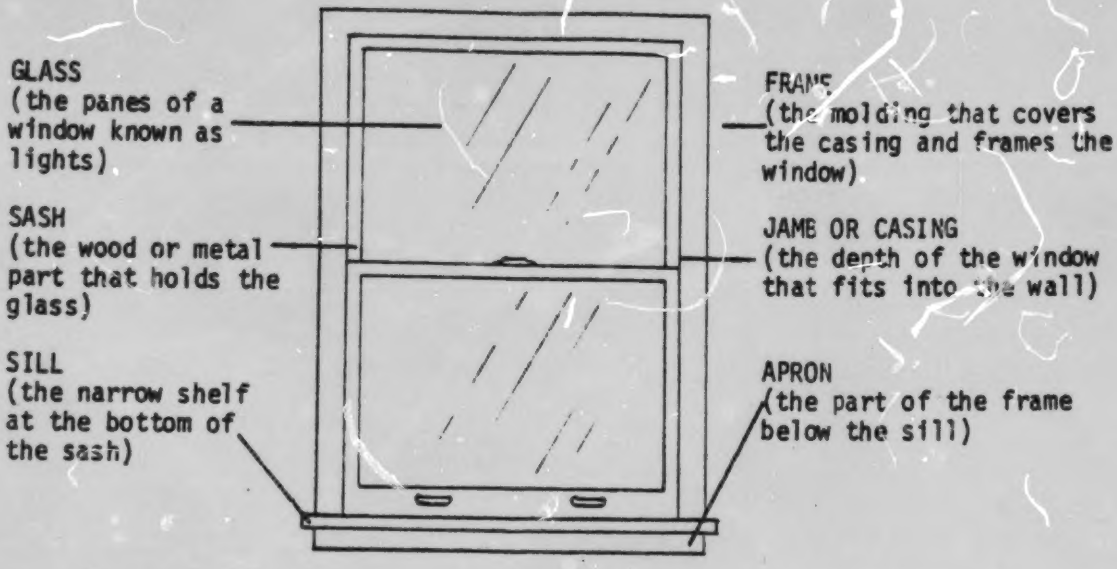

GLASS
(the panes of a window known as lights)
SASH
(the wood or metal part that holds the glass)
SILL
(the narrow shelf at the bottom of the sash)
FRAME
(the molding that covers the casing and frames the window)
JAMB OR CASING
(the depth of the window that fits into the wall)
APRON
(the part of the frame below the sill)

Diagram C

Viewing a transparency showing the parts of a window, the students will name the parts of the window as the teacher points them out. Notice the difference between the location of the window sill and the window apron; the jam and the sash.

Learning Activity #3. Locate examples of the types of windows.

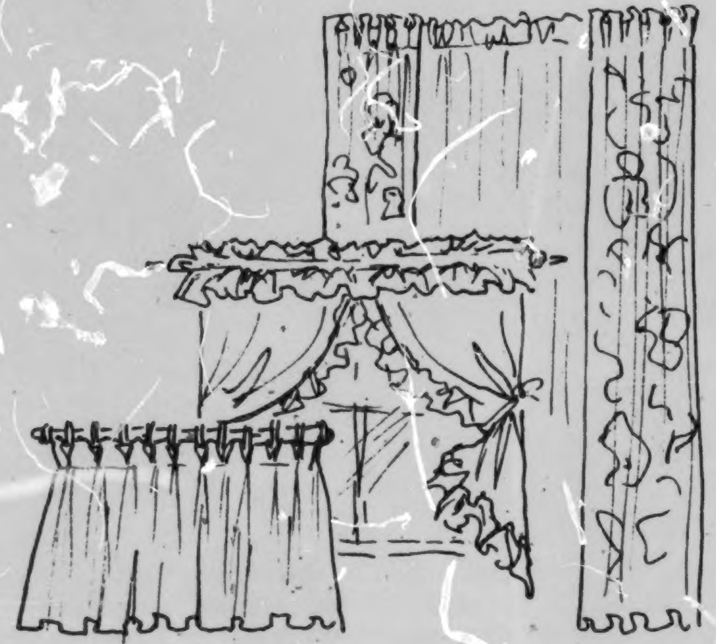
The student will collect pictures of windows clipped from magazines and select illustrations depicting the various styles of windows. The student will mount the pictures and label them.

COMPETENCY #2. Name types of window treatment appropriate for specific types of windows.

LEARNING ACTIVITIES

In order to meet this competency the student should be able to:

1. Identify the types of window treatments.
2. Describe various window treatments.
3. List the functions performed by curtains and draperies.
4. Identify the types of fabric used for making curtains and draperies.
5. Select examples of fabrics used to make curtains and draperies.



Learning Activity #1. Identify the types of window treatments.

Using the reference Homes With Character, the student will list types of window treatments. Types of window treatments might include curtains, sheers, shades, or draperies. Note the difference among the various types of window treatments.

Learning Activity #2. Describe various window treatments.

Using magazine pictures or drawings of window treatments the student will sort the pictures into groups according to the type of window treatment illustrated, i.e. traverse curtains and draperies, criss-cross curtains, sash curtains, panel curtains, cafe curtains, curtains on decorative rods, ruffled curtains, and arched window curtains.

Learning Activity #3. List the functions performed by curtains and draperies.

Discuss the functions of curtains and draperies. The student will list these functions on paper. The list should include the following points:

a. To control light
b. To provide privacy
c. To cut out noise
d. To insulate from the weather
e. To modernize or disguise windows
f. To add beauty to a room

Learning Activity #4. Identify the types of fabrics used for making curtains and draperies.

Examine samples of curtain and drapery fabrics. List the types of window covering which should be made from each fabric. Is the fabric formal or informal? Visit a drapery manufacturer, a drapery fabric shop or a department store to determine the types of fabric used to make curtains and draperies. Make a list of the fabrics available and the type of window covering each might be used to make.

Learning Activity #5. Select examples of fabrics used to make curtains and draperies.

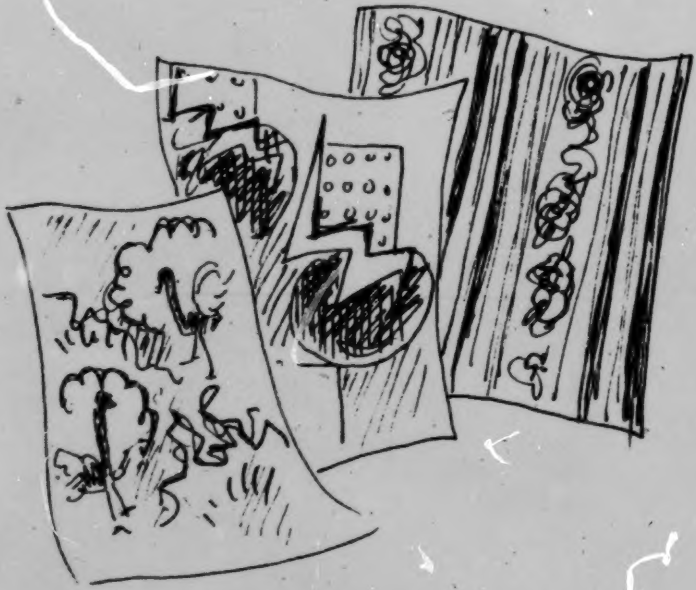
The student will study labeled samples of fabrics. Then select the fabrics which could be used to make window coverings. Sort each sample according to the type of window covering (either curtains or draperies) it is best suited for, and place the samples on a sort board. List which fabrics are suitable for pleating, shirring, gathering, and draping.

COMPETENCY #3. Apply elements, principles, and types of design to various types of drapery treatments.

LEARNING ACTIVITIES

In order to meet this competency the student should be able to:

1. Define Design.
2. List the elements of design.
3. Identify the types and characteristics of line.
4. Identify the basic shapes as they relate to window treatments.
5. Give examples of the effect of space in home furnishings items.
6. Identify the use of color in design.
7. Define texture as it applies to home furnishings--drapery treatments.
8. Identify the principles of design.
9. Describe each principle of design as it affects home furnishings items.
10. Identify four styles of design.
    a. abstract
    b. naturalistic
    c. conventional
    d. geometric



Learning Activity #1. Define design.

Design refers to the organization or arrangement of parts or details to create a complete and artistic unit. Design appears in all our surroundings, in homes and buildings, clothing, furnishings, and countless articles we use every day. Good design is pleasing; it adds to our happiness and enjoyment. Poor design causes an unpleasant reaction; it can seem confusing, out-of-place, or ugly. We react to design each day. Design influences what clothes we buy or what fabric we select. It influences where we shop. Some stores have a pleasant atmosphere that encourages us to shop and browse. Some restaurants create a cheerful, cozy, or romantic mood that attracts customers. These reactions do not result from chance; they are planned through use of design.

The teacher will define design through lecture and pictures. The student will look at pictures and select those most pleasing to them and explain why. Students may work together. Students will write a definition of design.

Learning Activity #2. List the elements of design.

The elements of design include line, shape, space, color and texture. Design elements are tools used for creating desired effects in various window treatments.

The student will:

1. View a filmstrip showing elements of design.
2. List the elements of design depicted in the filmstrip and discuss an appropriate definition for each design element.
3. View a flip chart presentation of the elements of design related to drapery window treatments. Each element should be named, represented with a picture or example and defined in simple terms.

Learning Activity #3. Identify the types and characteristics of line.

Line is the element of design that indicates direction. A line leads your gaze from one end of the line to the other. Each type of line creates a different mood or effect. Four types of lines are listed below.

1. Vertical lines suggest dignity and strength (Diagram D, Figure 1).
2. Horizontal lines suggest serenity, repose, and relaxation (Diagram D, Figure 2).
3. Diagonal lines express excitment and movement (Diagram D, Figure 3).
4. Curved lines suggest grace, gaiety and subtle movement (Diagram D, Figure 4).

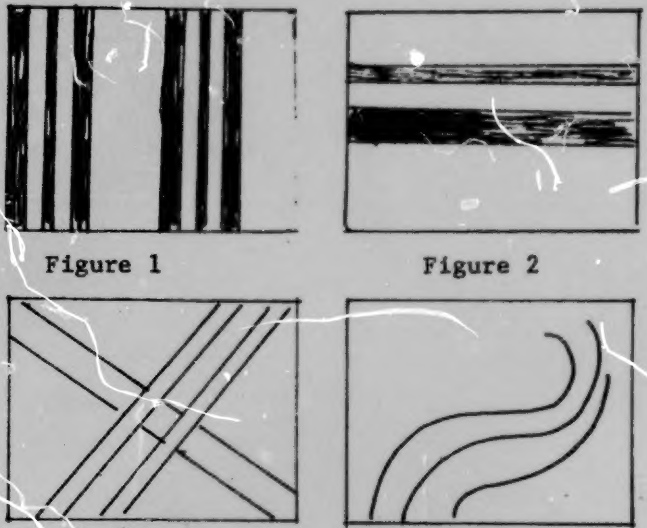


Figure 1

Figure 2

Figure 3

Figure 4

Diagram D

Different combinations of these lines can provide a variety of design possibilities.

For this learning activity, the student will:

1. Using a handout sheet showing the basic lines, state the effects each line creates.
2. Identify the lines on transparencies. The teacher will lay a transparency acetate over magazine pictures of window treatments and draw the dominant lines; the transparencies will be held for student observation.
3. Play the game "What's My Line?" Divide into two teams. Each team will attempt to determine the direction of the dominate lines in illustrations of window treatments and drapery fabrics. All members of the team will work with other teammates to determine the lines which dominate. As the teacher holds up each illustration the teams will write down the dominate lines in each illustration. The team which correctly identifies the dominate line in the most illustrations wins.

Learning Activity #4. Identify the basic shapes as it relates to window treatments.

You can combine lines to create and define shape. The basic shapes formed by lines are the square, the rectangle, the triangle, and the circle. These can be combined to create a variety of more complex shapes. The types of lines combined in creating a shape determine the feeling conveyed by the shape. For example, the straight lines of a rectangle suggest strength and dignity, while the curved lines of a circle suggest grace and movement.

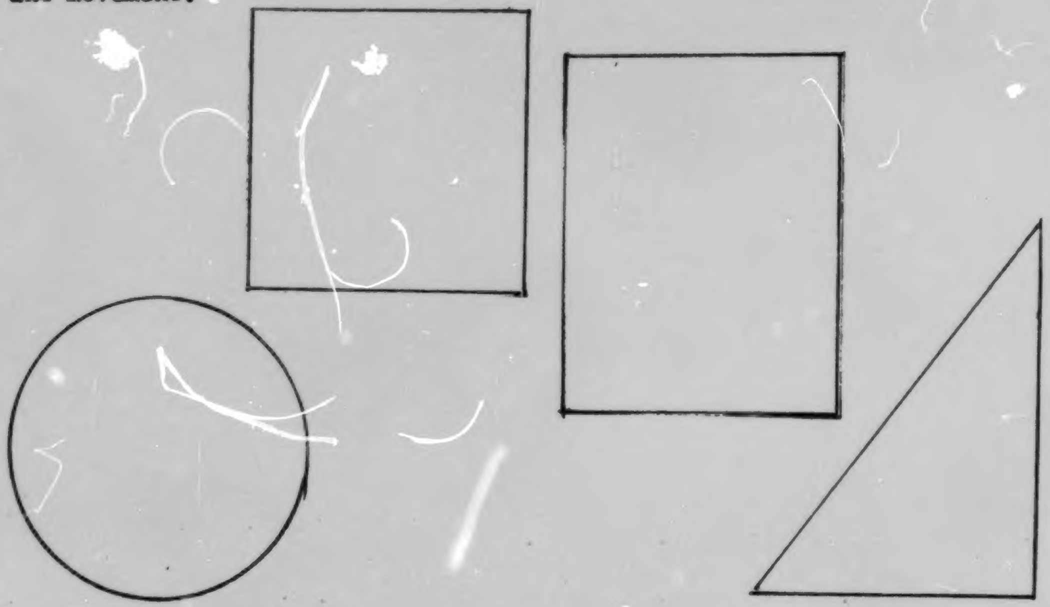


Diagram E

The students will divide into groups and look through magazines to find illustrations of the basic shapes. Discuss the effect created by each shape. For example, squares and rectangles seem stable while circles seem more flexible.

Learning Activity #5. Give examples of the effect of space in home furnishings items.

Space is all the area within our range of vision. Space is organized according to the relationship of the space, textures, and colors within the space to the whole space. The farther apart objects are, the more conscious we are of space. The closer objects are, the more conscious we are of shapes.

Students will look at the space in design in swatches of fabrics used in drapery treatments. Describe your feelings about each swatch. Where and in what kind of room would each swatch look best? Which swatch would you use to make a window look larger? Which swatch would make a window look smaller? State reasons for your choice.

Learning Activity #6. Identify the use of color in design.

Color is one of the most important elements in design because of the effects it has on people and objects. People react emotionally and physically to the colors around them. Colors can be depressing, irritating, disturbing, restful, soothing, stimulating, or exciting. Therefore, colors are used to establish mood and personality in a room, an arrangement, or display. For example cool colors (blue, green and purple) give a feeling of restfulness. Warm colors (red, yellow, and orange) give a feeling of activity.

A color wheel can be helpful in selecting and coordinating colors. The color wheel shows how colors are related to each other. Some standard color harmonies have been developed to help plan color schemes. They can be classified as similar (or related) color harmonies and contrasting color harmonies. In combining colors, be sure to consider the hue, value, and intensity of colors used in a color scheme. Any colors can be combined with pleasing results if they are of the right value and intensity.

1. Using a chart showing the color wheel the student will:
    a. select the primary, secondary, and intermediate colors.
    b. select the cool and warm colors.

2. Using tempera paint the students will make a color wheel and label the primary, secondary and intermediate colors.

3. The student will define the three characteristics which all colors have:
    a. Hue - name of color
    b. Value - lightness or darkness of color
    c. Intensity - brightness or dullness of color

4. The student will arrange a bulletin board showing each type of color scheme and apply it to drapery treatments.

Learning Activity #7. Define texture as it applies to home furnishings--drapery treatments.

Texture is the surface quality of an object. Feeling an article is often as important as seeing it. You can often imagine how an article will feel by looking at it. Because appearance can be deceiving, both touch and sight are used to identify the true texture of an object. You can determine texture more accurately through touch than through sight. A general mistake is that all textures are rough. Textures can also be smooth, soft, or shiny. Rough textures are usually used to create an informal or rugged atmosphere, while smooth or fine textures usually suggest formality or elegance. There are few set rules and regulations for combining textures. Generally, textures combined in a design should be related or should contrast pleasantly. They should express harmony by being suited to each other and to their uses.

The student will examine samples of fabrics such as nylon, acetate, velvet, fur, cotton and wool. Note differences in the feel of the samples. Sort the samples into groups of similar textures. List words that describe the textures of each of these groups of fabrics.

Learning Activity #8. Identify the principles of design.

Selection and arrangement of line, color, space, shape and texture are determined by the principles of design. Principles of design determine the location of fabric patterns and trims on home furnishings items. The principles of design should work together to produce an impression of unity with interesting variety.

The student will view transparencies or pictures showing the principles of design: proportion, balance, rhythm, emphasis, and harmony. Name the principles of design and define each. Note these definitions.

1. Proportion - a pleasing relationship among all parts of the design in relation to each other and to the whole (Diagram F, Figure 1).
2. Balance - equal distribution of weight in a design (Diagram F, Figure 2a, 2b).
3. Rhythm - repetitive accents to form a path for the eye to travel (Diagram F, Figure 3).
4. Emphasis - dominance and subordination leading the eye to the most important part of the design first and then to the other parts according to their importance (Diagram F, Figure 4).
5. Harmony - an impression of unity with interesting variety created when the principles of design are correctly combined (Diagram F, Figure 5).

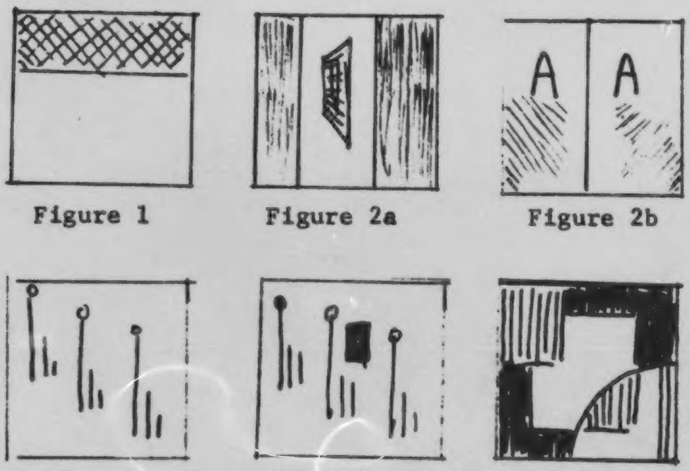


Figure 1 Figure 2a Figure 2b

Figure 3 Figure 4 Figure 5

Diagram F

Divide into groups. Watch as the teacher arranges objects to illustrate each principle of design. Each group should try to name and then define the principle of design illustrated. A team scores one point for correctly identifying the principle and two points for a correct definition. The team scoring the most points wins.

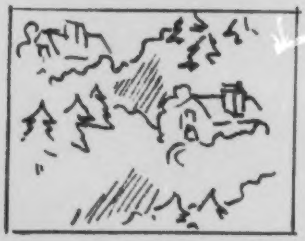
Learning Activity #9. Describe each principle of design as it affects home furnishings items.

Using samples of drapery fabrics, wallpaper, cushion covers etc., the student will list how the principles of design are used in each of the samples. How can proportion, balance, rhythm, emphasis, and harmony affect the construction of home furnishing items, for example cutting fabric so designs will be centered on the cushions or in the most pleasing location on drapery cuts?

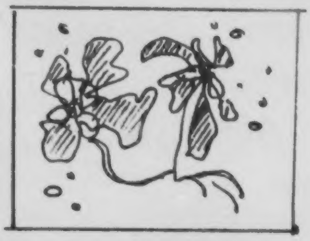
Learning Activity #10. Identify four styles of design.

Good design based on elements and principles of design is not restricted to just one style of representation. Designs may be represented in naturalistic, conventional, or abstract form. Regardless of the style followed, designs are judged by the way the elements and principles are blended to create the desired effect.

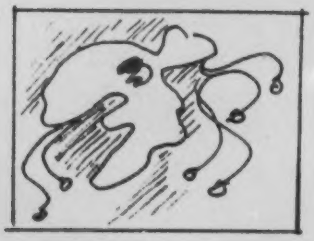
Naturalistic design represents subjects just as they are found in nature. Whether the theme is flowers, animals, landscapes, or buildings, the design strongly resembles the actual object.



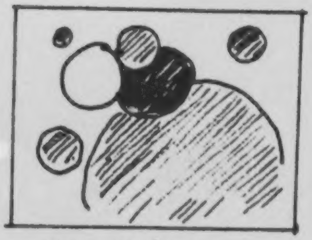
Naturalistic



Conventional



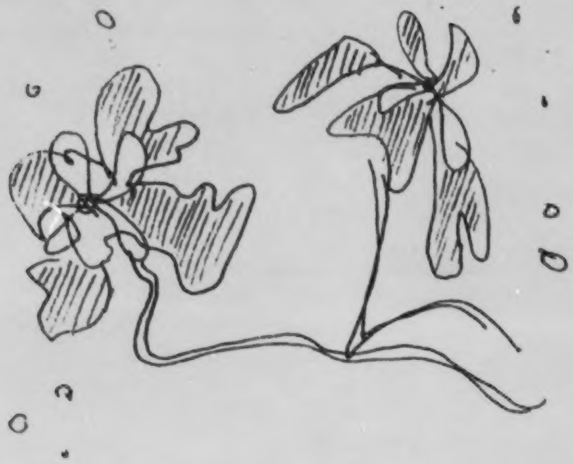
Abstract



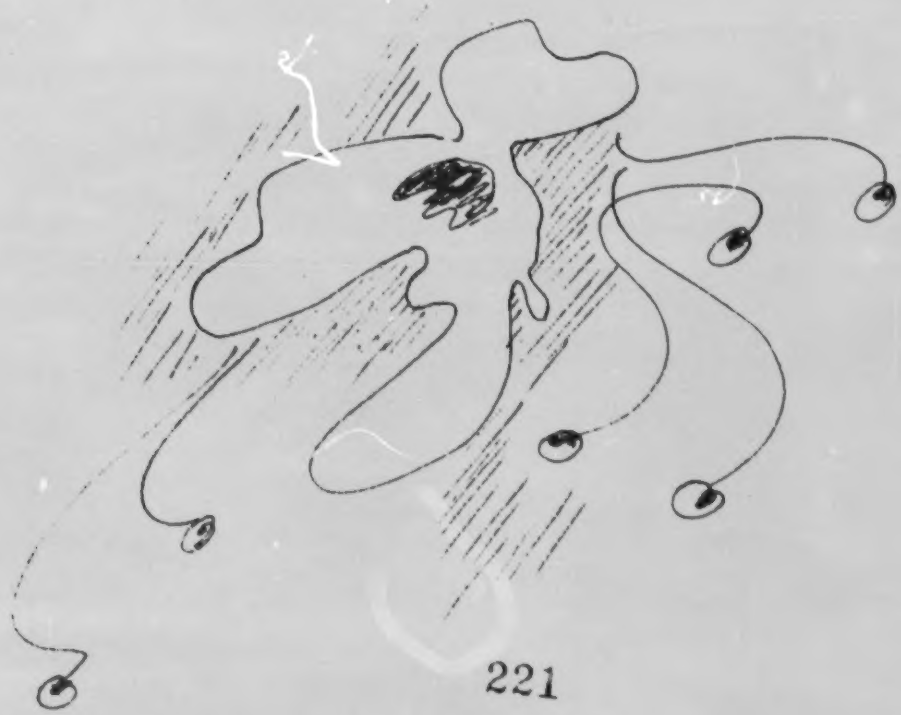
Geometric

Learning Activity #10 (continued)

Conventional design is inspired by natural forms, but they are not accurately represented in the design. Forms can be simplified or exaggerated; proportion can be distorted and color can be unrealistic.

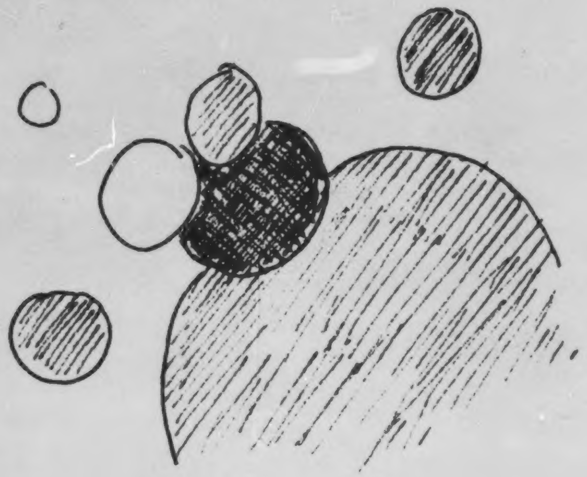


Abstract design is an imaginative, impressionistic form of representation. Abstract designs can also be inspired by natural forms, but these are not easily recognized in the design. In abstract style, details are eliminated and the subject is simplified, exaggerated, or rearranged until the design suits the object.



Learning Activity #10 (continued)

Geometric designs are abstract designs which use mathematical rather than natural forms. Shapes such as circles, triangles, and rectangles can be arranged to form complicated patterns. Geometric designs are often associated with modern furnishings.



1. The student will define the four styles of design.
2. The student will look through fabric sample books and select samples with designs which are naturalistic, conventional, abstract and geometric. Label each sample selected and tell why it was classified in that particular style of design.

COMPETENCY #4. Select the appropriate tools and equipment used in drapery making workrooms.

LEARNING ACTIVITIES

In order to meet this competency the student should be able to:

1. Identify the types of cutting, marking, measuring, and pressing equipment used in drapery workrooms.
2. Select proper machines available for task involved.

Learning Activity #1. Identify the types of cutting, marking, measuring, and pressing equipment used in drapery workrooms.

The students should be familiar with tools and equipment used in a drapery workroom.

For this learning activity the student should participate in the following activities:

1. Examine a display of small equipment used in drapery construction. The display should include push pins, drapery weights, seam gauge, clamps, shears, seam ripper, clippers, tailors chalk, yardstick, metal tape measure, hooks, and irons.
2. Visit a drapery workroom and observe the various training stations using drapery equipment.

Learning Activity #2. Select proper machines available for task involved.

The student will examine and operate the machines available (such as bar tacker, serger, blind stitch, and single needle lockstitch machines) after proper instruction by the teacher. The student should practice using the various machines on sample fabrics.

COMPETENCY #5. Follow work order forms for constructing window treatments.

LEARNING ACTIVITIES

In order to meet this competency the student should be able to:

1. Define work order.
2. Interpret information found on a work order.
3. Complete a work order correctly.

Learning Activity #1. Define work order.

A work order is a form which gives employees information for the construction of draperies.

For this learning activity the student will brainstorm to suggest information which should be included on work orders according to the definition given above.

Learning Activity #2. Interpret Information found on a work order.

The student will view a transparency of a drapery work order (obtain a copy of a drapery work order form from a local drapery company and make a transparency). Have student locate: name and address of customer, date order is to be completed, description of fabric to be used, rod specifications, special instructions, etc.

Learning Activity #3. Complete a work order correctly.

Using the information and specifications the teacher has written on the chalkboard, the student will fill out samples of work orders the teacher has obtained from various drapery shops.

COMPETENCY #6. Measure and cut drapery fabrics.

LEARNING ACTIVITIES

In order to meet this competency the student should be able to:

1. Define the following terms:
    a. pattern repeats
    b. splitting
2. Determine total cut lengths and width needed for drapery panels of printed and solid fabrics.
3. Cut drapery lengths.

Learning Activity #1. Define the following terms:
a. pattern repeat
b. splitting

Some fabrics have designs made by using a pattern over and over in a specific sequence. These are called pattern repeats. Panel lengths must be cut so that pattern repeats match when the widths are sewn together. Using sample yardage, find the length of a pattern repeat by measuring from a certain point on one motif to that same point on the next motif (Figure 1).

Splitting the fabric lengthwise is sometimes necessary to get the required width needed for a drapery panel. The process of dividing fabric widths is called splitting (Figure 2).

After teacher explanation the student will define pattern repeat and fabric splitting by drawing examples of each and describing what they have done.

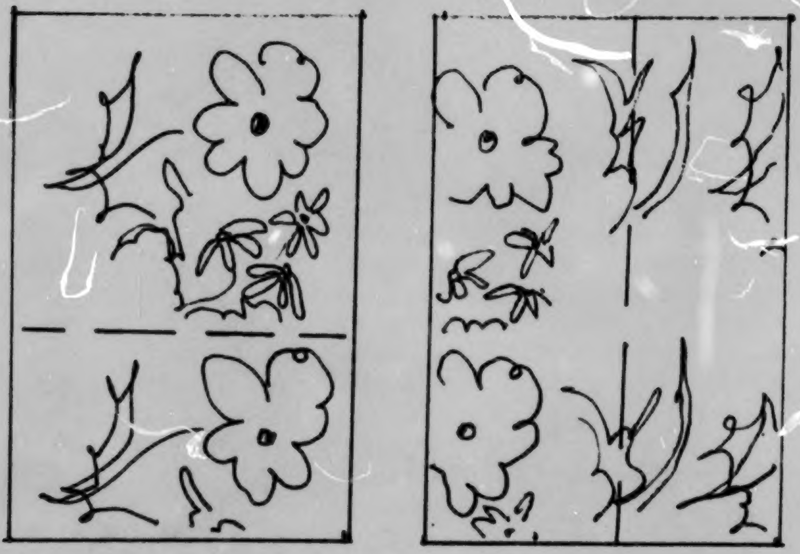


Figure 1 Figure 2

Diagram G

Learning Activity #2. Determine the total cut lengths and widths needed for drapery panels of solid and printed fabrics.

Measurements for any window treatment should be taken with a steel tape or folding ruler. Measure the length from about ½ inch from the floor, depending upon the finished length desired. Then add allowances for the hem and heading to determine the "cut length." For the width, measure from one outer edge of the fixture bracket to the other. If the bracket is not mounted, measure from the outer edge of the window frame. This is the flat measurement; allowance for the returns would have to be added. Generally, the amount of fullness allowed is determined by multiplying the width of the area to be covered by two or three, depending upon the weight of the fabric. Add the return allowance, hem allowances, and overlaps, and multiply for the fullness to determine the "cut width."

Example:

Length:	Measure length of the finished curtain or drapery: usually from ½ inch above rod to sill, apron, or ½ inch from floor.	84"
	Add heading allowance: 6 to 8" depending on type of fabric, 8" for sheers to allow for double turn.	8"
	Add hem allowance: varies with weight of fabric and length of drapery, usually a double 4" hem is used.	8"
	Total cut length	100"
Width:	Measure the rod and multiple by 2 or 3 for desired fullness. Multiply by 2 for heavy fabrics, by 2½ for medium fabrics and 3 for sheer fabrics. (example: 66" rod multiplied by 2½).	165"
	Add wall return; can vary from 3 to 5 inches for each side of window, but 4" is standard. (2 x 4")	8"
	Add center overlap and underlap: usually about 3". (2 x 3")	6"
	Add side hem allowances: usually 1¼ to 1½ inches and double turned. (4 x 1¼")	10"
	Total cut width	189"

Learning Activity #2 (continued)

Divide the fabric width into the total required width to determine the number of fabric widths needed for the entire window.

Example: 189" divided by 45" fabric width = 4.2 so 4 widths are needed. Multiply the number of fabric widths by the total length measurement and divide by 36 inches to get the number of yards needed.

100 x 4 = 400 inches or 11.1 yards of fabric. Always add ½ yard extra fabric to allow for any flaws. Therefore purchase 11½ yards of fabric.

If the fabric has a pattern repeat, extra fabric must be allowed for matching the patterns. Measure the length of the pattern repeat. Divide it by the total length needed. If the desired length of panel, including hems and heading is 120 inches and the pattern repeat is 16 inches, 120 inches divided by 16 inches = 7½ inches. You will therefore need to allow for 8 full repeats for each length. This will mean there will be an 8 inch waste on each length.

1. After proper instruction the student will be given rod and window measurements and will figure the amount of fabric needed.

2. Students will select a window in their home, take the measurements and figure the yardage needed using 2½ times fullness and 45 inch fabric.

Learning Activity #3. Cut drapery lengths.

Make certain there is proper yardage before cutting. Check fabric for flaws. If a pattern repeat is present decide where the motif looks the most pleasing. Pull a thread at end of fabric to get fabric on grain. When the fabric has a design, follow the design when cutting lengths. The design may be printed on the fabric off grain.

Clamp the fabric to the end of the drapery or cutting table. Measure proper length, clip at selvage, pull thread and cut length on missing thread line.

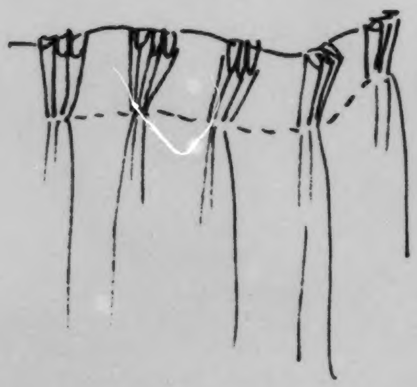
The student will construct either a sample drapery or draperies for a window in their home. Cut the drapery lengths.

COMPETENCY #7. Construct drapery sample using appropriate techniques.

In order to meet this competency the student should be able to:

1. Demonstrate appropriate methods used when stitching panel lengths of printed or solid fabrics.

2. Demonstrate the processes included in tabling draperies.
   a. Side hems
   b. Bottom hems
   c. Heading
   d. French pleats
      (1) Measure for pleats and spaces
      (2) Pinning off
      (3) Fold and stitch pleat
   e. Folding and banding
   f. Breaking and tacking pleats



Learning Activity #1. Demonstrate appropriate methods used when stitching panel lengths of printed or solid fabric.

If in doubt as to right side of fabric consult the work order. Pin panels together or carefully hold edges even. Stitch panels from hemline to heading. Hold under layer of fabric firmly as it tends to ease into the seam causing puckers. Check every few inches to make sure the patterns match. This seam can be sewn on the serger.

After proper demonstration by the teacher the student will sew the panels together on the sample drapery.

Learning Activity #2. Demonstrate the processes included in tabling draperies.

The students will watch a demonstration by the teacher showing sewing side hems, bottom hems, heading, French pleats, folding, banding, and tacking pleats.

a. Side hems:
Using a seam gauge measure fabric over 2½" and press. Open up hem fold 1¼" and press edge. Then double turn hem for finished 1¼" hem. Stitch on blind hemmer (Diagram H, Figure 1).

b. Bottom hems:
Drapery weights can be inserted in side hems at this point or can be inserted after hem is completed. Turn hem up 8" and press edge. Open hem and press up 4". Double turn hem and blind stitch on blind hemmer. Keep fabric taut as the top layer will ease in and the hem will be uneven. Matching seams are good check points. Pins may be used but must be removed before reaching them with the hemmer (Diagram H, Figure 2).

c. Heading - 4" crinoline:
Place crinoline on wrong side of fabric even with edge of heading. Stitch crinoline to raw edge of heading with serger (Diagram H, Figure 3a)--or clean finish by turning under ¼" and stitching heading top to crinoline (Diagram H, Figure 3b). Double turn crinoline to wrong side. In heavy fabric single fold is satisfactory. Attach the folded fabric edge to the crinoline to hold the fabric and crinoline in place while the heading is pleated This may be done by hand basting, blind hemming, or gluing.

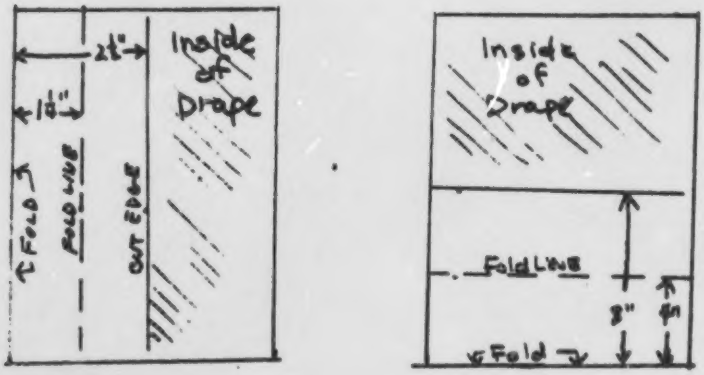


Figure 1 Figure 2

Diagram H

Learning Activity #2 (continued)

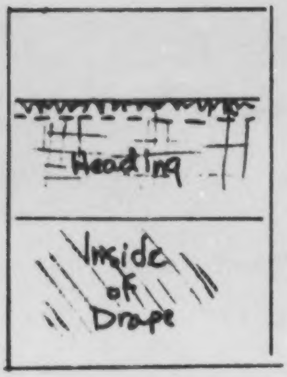


Figure 3a

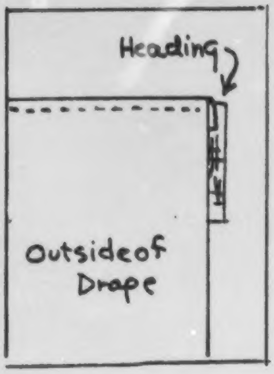


Figure 3b

Diagram H (continued)

d. French pleats:
   (1) measure for pleats and spaces (see insert)
   (2) pinning off
   The pinning off process can be done with a yardstick or the measurement markings on the work table. In this process, follow these steps.
      (a) Determine which is to be the right and the left panel as they will be after they are hung.
      (b) Work with one panel at a time, and use a yardstick to measure the pleats and spaces beginning with the center overlap or underlap. Measure the length of the space allowed for the center overlap or underlap. The standard width of this center overlap or underlap is usually 3 inches.

FRENCH OR PINCH PLEATS

French pleats or pinch pleats are one of the most effective ways to finish draperies and control fullness. Pleat the top hem or heading of each panel to fit the space it is to cover—half the total window space. You'll usually make an odd number of pleats—three, five, seven, or nine—depending on width of panel. The following will help you decide on the number of pleats for width of material:

36-inch fabric, finished in 33-inch panel, can have 3 pleats

48-inch fabric, finished in 45-inch panel, can have 5 pleats

54-inch fabric, finished in 51-inch panel, can have 5 pleats

1½ widths of 36-inch fabric, finished in 50-inch panel, can have 5 pleats

1½ widths of 48-inch fabric, finished in 68-inch panel, can have 7 pleats

2 widths of 48-inch fabric, finished in 92-inch panel, can have 9 or more pleats

2 widths of 54-inch fabric, finished in 104-inch panel, can have 9 or more pleats

Measurements for size of pleats and spaces seldom come out to the exact number, but you can figure to the nearest ½ inch. Any discrepancy in the over-all pleated width can be corrected by stitching pleats a bit more to one side or the other of the calculated stitching line.

The table in the next column will help you figure out width of pleats and spaces for one drapery panel for a 36-inch window.

	Example Inches	**For Your Drapery**
Length of rod	36	
Depth of returns, bend of rod to wall, 3 + 3	6	
Overlap at center to shut out light	+ 3	
Total width or space to cover	45	
Total width needed for pair of draperies, twice the space	90	
Width of material to buy to get 1 panel from 1 width 48-inch material will finish 45 inches 54-inch material will finish 51 inches		
Best width for ample fullness	54	
Less side hems	3	
Finished width	51	
Half of space to cover	22½	
Fabric left for pleats	28½	
5 pleats in one 51-inch panel		
Fabric each pleat can have—28½ divided by 5 or 5.7 inches. Allow 1 inch for ease, make each pleat 5½ inches		
Space one panel covers	22½	
Total space needed at sides for return and lap	6	
Space between 5 pleats	16½	
Space between pleats—16½ divided by 4 or 4⅛ inches		

You will have five, 5½-inch pleats with four 4⅛-inch spaces between.

Measure for pleats and spaces

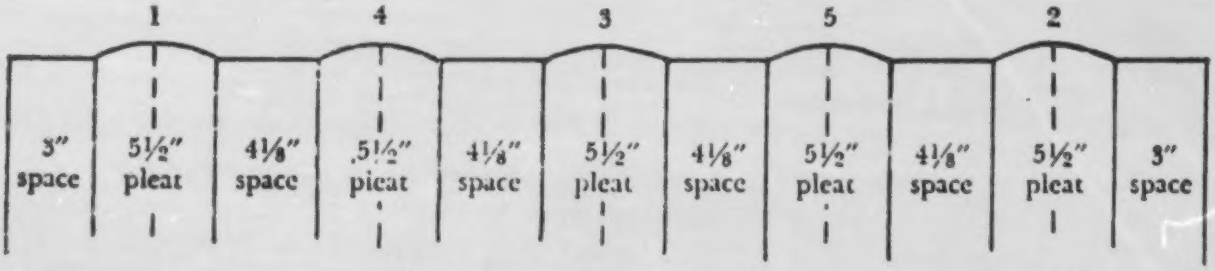


Diagram I

Learning Activity #2 (continued)

(c) At the top edge of the panel heading, place a pin vertically through the fabric and the crinoline. This pin will indicate the beginning of the first pleat (Diagram J).

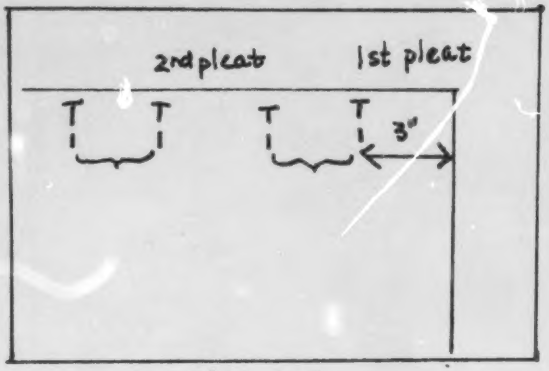


Diagram J

(d) Holding the yardstick in place, measure over from the pin the width of a pleat. Place another pin the same way as you placed the first pin.

(e) Measure over the width of a space from the second pin. Place another pin. Repeat this process until you have the correct number of pleats and spaces. If the measurements do not work out exactly, make the necessary adjustments in the pleats.

e. Folding and banding:
On the table begin folding drapery at the center edge. Fold the center overlap back with wrong sides together. Smooth the fold entire length of panel. Using ruler measure from the fold of the next pleat to the fold of the next pleat (Diagram K, Figure 1). Measure the same distance at the hem end of the drape. Fold this section under. Continue this process until all pleats are in folds one on top of the other. After the pleats have been folded, the wall return allowance is folded back over the top (Diagram K, Figure 2).

Being careful to keep draperies in folds slip band (strip of paper or fabric) under panel, bring around drapery, and tie or tape in place. Place as many bands as necessary to hold panel in place. Allow the banded panels to lie flat for several days to aid in setting the folds (Diagram K, Figure 3).

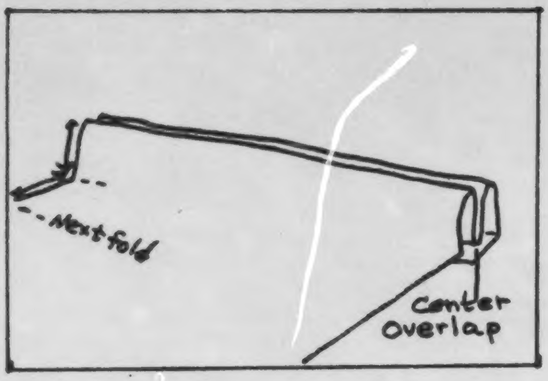

Next fold
Center Overlap

Figure 1

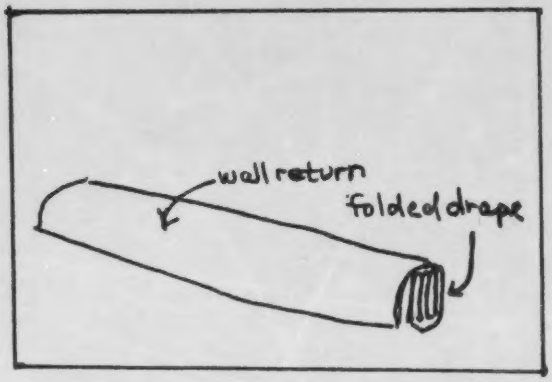

wall return
folded drape

Figure 2

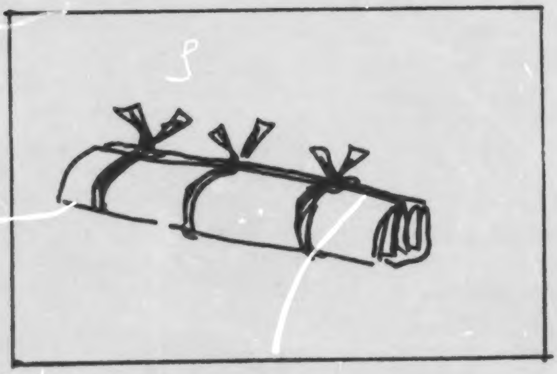


Figure 3

Diagram K

Learning Activity #2 (continued)

f. Breaking the tacking pleats:
Breaking the pleats is actually creasing the crinoline in the heading to make it easier to shape the top when making the French pleats.
   (1) Leave draperies banded and work only with the heading.
   (2) Break the pleat by creasing the crinoline in the heading.
   (3) Shape the pleat (Diagram L, Figure 1a and 1b).
   (4) Secure the pleat with a bar tack at the folded edge or secure by hand (Diagram L, Figure 2a). An alternate method is machine stitching through all thicknesses (Diagram L, Figure 2b).
   (5) Insert a drapery hook behind each pleat (Diagram L, Figure 3).

The student will complete the drapery sample using the techniques demonstrated by the teacher.

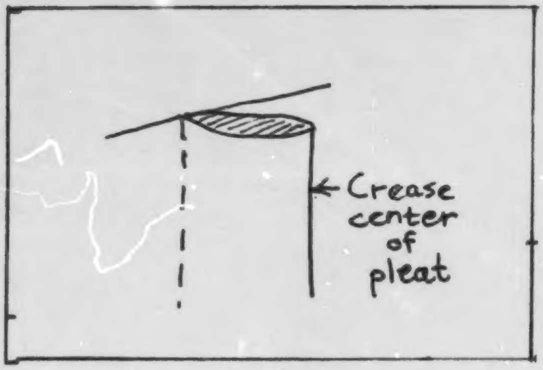

Crease
center
of
pleat

Figure 1a

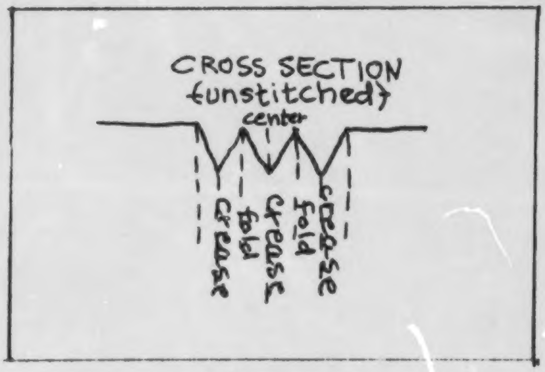

CROSS SECTION
(unstitched)
center
crease
fold
crease
fold
crease

Figure 1b

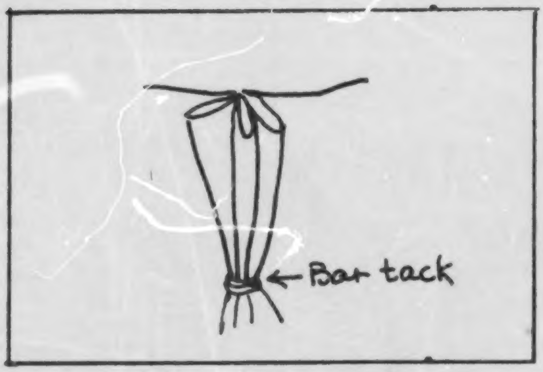


Figure 2a

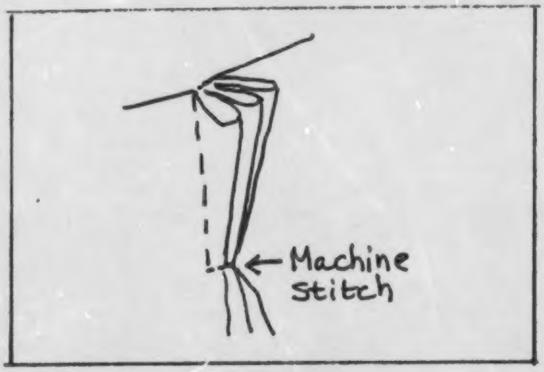

Machine
stitch

Figure 2b

Diagram L

Learning Activity #2 (continued)

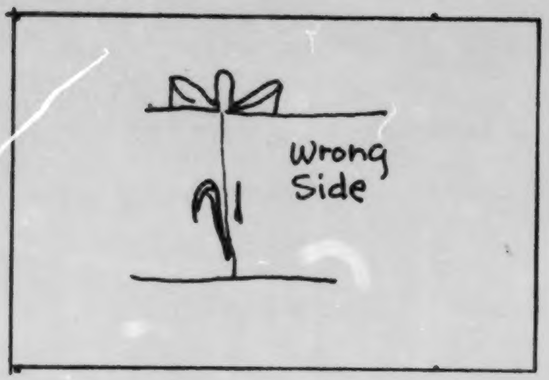


Figure 3

Diagram L (continued)

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2. Graber, Marie. First Official Window Decorating Guide, 2nd Ed., New York, New York, 1968.
3. Allen, Phylis Sloan. The Young Decorator, Provo, Utah: Brigham Young University Press, 1975.
4. Craig, Hazel, Thompson and Rush, Ola Day. Homes With Character, 3rd Ed., Lexington, Massachusetts: D.C. Heath and Co., 1970.
5. Windows Beautiful, Vols. 1-5. Sturgis, Michigan: Kirsch Company, 49091.
6. Sherwood, Ruth. Homes Today and Tomorrow. Peoria, Ill., Chas. A. Bennett Co., 1972.
7. Make Your Own Draperies. University of Missouri, Ext. Division Circular, 793.

Filmstrips

1. Window Dressing, What Should Your Windows Wear, Rooming With Windows, Kirsch Company. Sturgis, Michigan, 49091.
2. Window Treatments. Chicago, Illinois: Sears, Roebuck and Co., 1970.
3. Elements and Principles of Design, Home Decoration Set #1, McGraw-Hill Films, Cassette Sound Filmstrips, 1971.

PERFORMANCE CHECKLIST

	Satisfactory	Not Satisfactory
Competency #1		
Learning Activity #1		
#2		
#3		
Competency #2		
Learning Activity #1		
#2		
#3		
#4		
#5		
Competency #3		
Learning Activity #1		
#2		
#3		
#4		
#5		
#6		
#7		
#8		
#9		
#10		

PERFORMANCE CHECKLIST (continued)

	Satisfactory	Not Satisfactory
Competency #4		
Learning Activity #1		
#2		
Competency #5		
Learning Activity #1		
#2		
#3		
Competency #6		
Learning Activity #1		
#2		
#3		
Competency #7		
Learning Activity #1		
#2		

RECREATIONAL VEHICLE UPHOLSTERING

RECREATIONAL VEHICLE UPHOLSTERING

There are many opportunities for the student with a strong interest and self motivation to work in industry in the area of recreational vehicle upholstery. There is little opportunity at the present for them to acquire skills other than on-the-job-training. There is a need for the student to learn the basic techniques for constructing box cushions used on benches and beds in campers, trailers, and vans.

The purpose of this module is to acquaint the students with techniques in using the upholstery power (walking foot) machine and constructing box cushions from various fabrics.

Upon completing this unit the student should be able to:

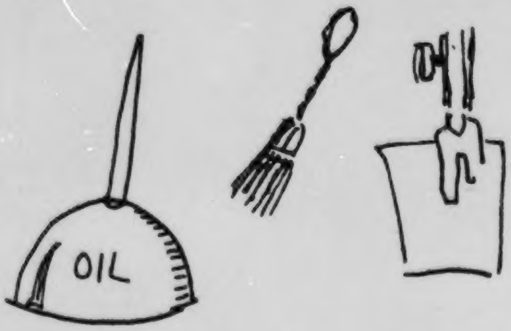
1. Operate an upholstery power machine (walking foot).
2. Construct a box cushion.
    a. welt cord in boxing
    b. zipper in boxing
3. Quilt fabric to foam backing. (Optional)

COMPETENCY #1. Operate a walking foot power machine.

LEARNING ACTIVITIES

In order to meet this competency the student should be able to:

1. List safety tips used in machine operation.
2. Thread the machine.
3. Clean and care for the machine.
4. Operate the machine.



Learning Activity #1. List safety tips used in machine operation.

The student should have had experience sewing on single needle lockstitch machines. The student should carefully read the manufacturer's manual for the particular kind walking foot machine to be used and practice all safety tips. Listed are some safety tips in general.

1. Turn off motor when machine is not in use or when making any adjustments or repairs such as replacing needles.
2. Learn the location of all switches and plugs before sewing.
3. Keep your eyes on your hands as you work.
4. Concentrate on your work to avoid accidents.
5. Keep work area clear.
6. Use finger guards.

The student will list all safety tips on paper and go over them verbally with the instructor prior to using the machine.

Learning Activity #2. Thread the machine.

The student will follow the manufacturer's manual for threading the machine. The student will thread the machine and replace the bobbin several times. The instructor will check the student to make certain threading is done correctly.

Learning Activity #3. Clean and care for the machine.

It is important that the machine is properly cared for to keep it in good running condition. Some machines are self oiling, others are not. Follow the manufacturer's manual for proper instruction. Each student will demonstrate proper oiling and cleaning procedures.

1. Oil machine according to instructions.
2. Brush lint from bobbin area and under slide plate.
3. Place scrap of fabric between pressure foot and feed dogs to protect both.
4. Cover machine and clean around area.

Learning Activity #4. Operate the machine.

The instructor will demonstrate and explain the operation of the machine for the students. The student will practice sewing on scraps of vinyl and upholstery fabric doing the following:

1. straight stitching
2. back tacking
3. changing stitch length
4. sewing cording
5. double row stitching

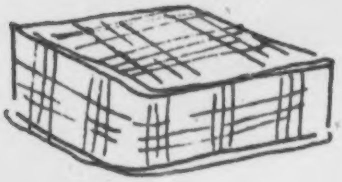
When the student feels confident on the machine he/she is ready to sew on selected project.

COMPETENCY #2. Construct a box cushion.

LEARNING ACTIVITIES

In order to meet this competency the student should be able to:

1. Define upholstery terminology used at the work station.
    - a. welt cord
    - b. contrast welt cord
    - c. boxing
    - d. boxing template
    - e. zipper pull
    - f. zipper tape
    - g. block foam
2. Measure and cut fabric for box cushion
    - a. top and bottom of cushion
    - b. boxing
    - c. zipper end boxing
    - d. cording
3. Measure and cut zipper tape
    - a. attach pull to zipper tape
4. Measure and cut welt cord
5. Demonstrate the processes included in making a box cushion.



Learning Activity #1. Define upholstery terminology used at the work station.

a. Welt cord - cord that is covered with self fabric.
b. Contrast welt cord - cord that is covered with contrasting fabric.
c. Boxing - the narrow strip of fabric that joins the bottom and top sections of the cushion.
d. Boxing template - piece of wood used as marker for accurate boxing width.
e. Zipper tape - the fabric edge of the zipper coil.
f. Zipper pull - the metal tab used to close and open the zipper.
g. Block foam - piece of foam cut to cushion dimensions.

The student will define the above terms from student teacher discussions and demonstration.

Learning Activity #2. Measure and cut fabric for box cushion.
Learning Activity #3. Measure and cut zipper tape.
Learning Activity #4. Measure and cut welt cord.

The student will, after teacher demonstration, construct a box cushion following the techniques listed below. It is difficult to split these learning activities so they are listed together. The steps for making the box cushion are listed in sequence.

The cushion will have a self welt and zipper in the boxing. The dimensions are 24" x 18" x 3". Any size cushion may be used, the dimensions given are simply suggestive. (Small ones are more difficult.)

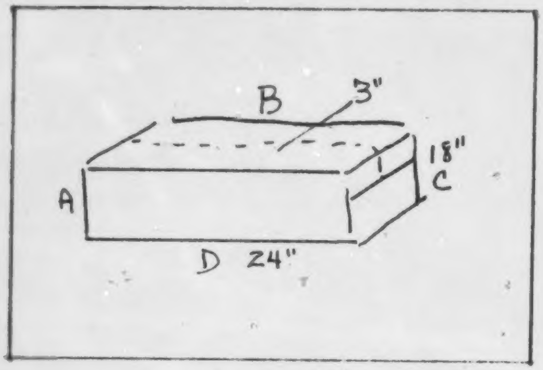


Diagram A

1. Purchase one block of foam 24" x 18" x 3".
2. Cut two pieces of fabric 24" by 18" for top and bottom of cushion (notice no seam allowance is made). Cut cushion top and bottom same size as foam block.
    a. Use L square when cutting in order to cut uniform pieces and square corners.
    b. Seam allowances vary from 0 to ½" depending on foam density.
3. Cut boxing - refer to Diagram I for measurement.
    a. Cut one piece the depth of cushion 3" plus 1" for seam allowance and 1" for welt cord equaling 5" total width. To determine the length of the boxing strip:
        (1) add together sides A + B + C = 60". Boxing strip will be 5" x 60".
        (2) the zipper side of the boxing must be cut 1" wider to allow for zipper seams. To obtain length of strip take side B plus 12" to go around corners. Strip should be 36" by 6".
4. Insert zipper in boxing.
    a. Fold 6" boxing in half lengthwise and machine baste cut edges together with longest machine stitch sewing ½" seam.
    b. Cut along fold and finger press seam open.
    c. Cut zipper 2" longer than zipper boxing (38"), put pull on zipper.
    d. Place zipper right side to opened seam allowance, hold in place and stitch from right side of fabric. Have zipper extend 1" on each end of seam.

Learning Activity #2, #3, #4 (continued)

5. Sew boxing strip to zipper boxing.
    a. Sew 1½" seam sewing over zipper and making 3/4" pocket for pull tab as shown in Diagram B.

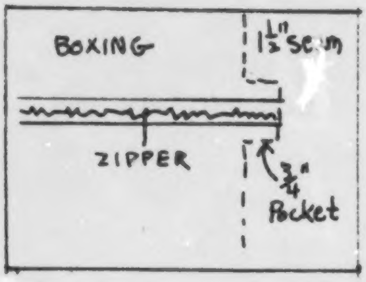

BOXING
1½" seam
ZIPPER
¾" Pocket

Diagram B

6. Insert cording.
    a. Fold one side of boxing over cording, stitch next to cording using ½" allowance.

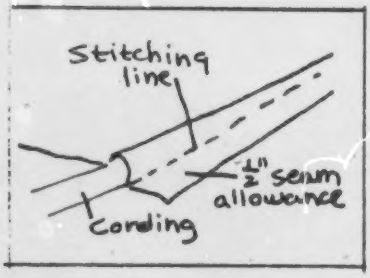

Stitching line
½" seam allowance
Cording

Figure 1

    b. Fold opposite side of boxing over cording using 2½" template as a guide to keep boxing exact width.

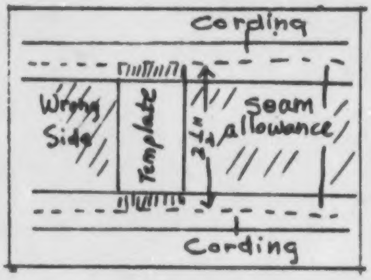

Cording
Wrong Side
Template
2½"
Seam allowance
Cording

Figure 2

Diagram C

Learning Activity #2, #3, #4 (continued)

7. Sew boxing to top piece of fabric.
   Place wrong side of welt boxing to right side of cushion. Sew on right side making ½" seam (Diagram D, Figure 1).
   a. Place center of zipper boxing to center of side B (Diagram A) and measure to zipper end (will be around corner on side A). Begin sewing 2" from end of boxing to allow for connecting seam later.
   b. Line up ½" seam and sew to within ½" of corner, pivot and continue around cushion to within 3" of beginning point on side A (Diagram D, Figure 2).
   c. Measure boxing overlapping each 1". Cut remainder of boxing off. Peel welting fabric back to reveal cording. Sew welting together. Cut the cord to butt edges together and continue seam in boxing (Diagram D, Figure 3).
   d. Unpick zipper basting and open zipper a few inches.
   e. Sew opposite side of boxing eyeing corners to keep them square, still sewing from the right side of the fabric.
   f. Insert foam block.

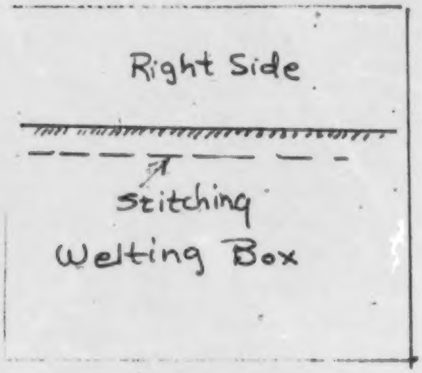

Right Side
Stitching
Welting Box

Figure 1

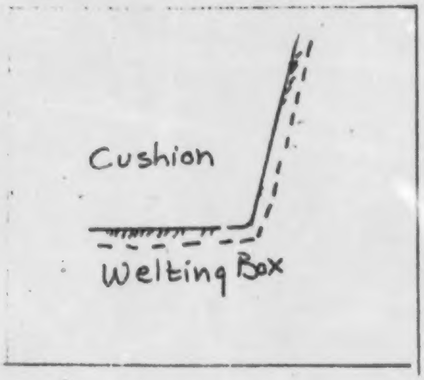

Cushion
Welting Box

Figure 2

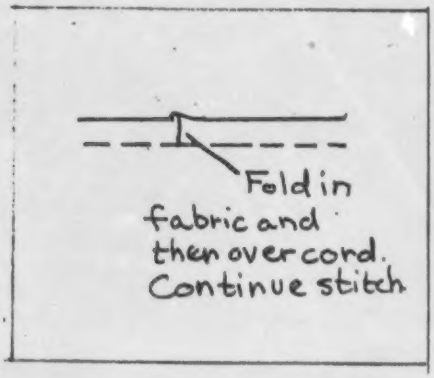

Fold in fabric and then over cord. Continue stitch

Figure 3

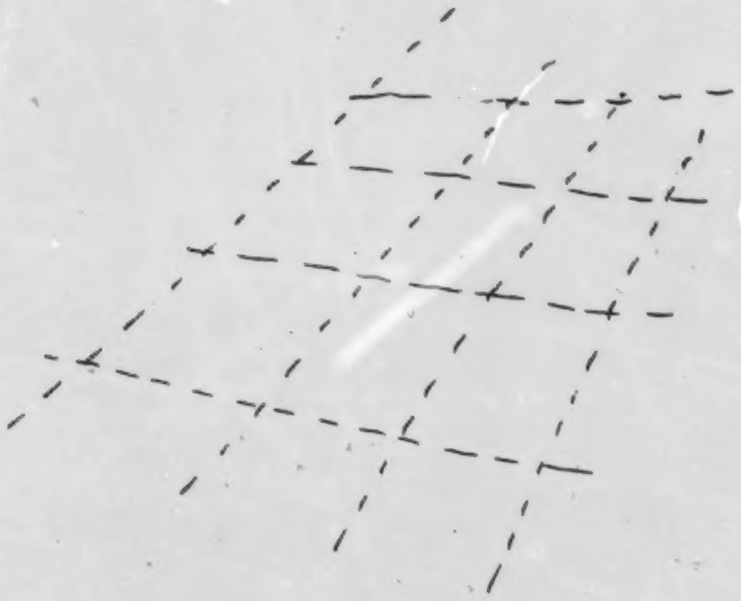
Diagram D

COMPETENCY #3. Quilt fabric to foam backing

LEARNING ACTIVITIES

In order to meet this competency the student should be able to:

1. Measure and cut fabric and foam.
2. Select and mark quilting pattern on fabric.
3. Demonstrate the process in quilting fabric to foam.



Learning Activity #1. Measure and cut fabric and foam.

Always cut fabric and foam larger than finished size. Cut three to five inches larger on all sides. Be certain to cut fabric on grain and cut on the square. Follow work station methods for cut size for various patterns.

The student will cut a square of fabric and foam 36 inches to make a sample of quilting. For this sample we will use vinyl and ½ inch backed foam. This sample may later be used as the top of a cushion.

Learning Activity #2. Select and mark quilting pattern on fabric.

For this learning activity the student will quilt the fabric cut in learning activity #1 to the ½" cut foam. A diamond pattern 3 x 5" will be drawn on the fabric with fine edged chalk as directed. Find the center of the fabric in Figure #1. To draw 3 x 5" diamonds use the following directions. Draw a solid line A to A_1 down the center of the fabric in the direction that the length of the diamond will be running. Measure from point A down 2½" mark B, this is half the length of the diamond. Then measure down from B the length of the diamond which is 5" to mark C. Using a 2 3/4" wide marker board place the board on line A between marks B and C, so that one of the edges of the board lay directly upon the cross of line A mark and the B mark the other edge lays directly upon the cross of line a and mark C. Draw a line on each side of the marker and continue to move the marker and draw lines to the end of the fabric. Repeat markings going the opposite direction. See Figures 2 and 3 below.

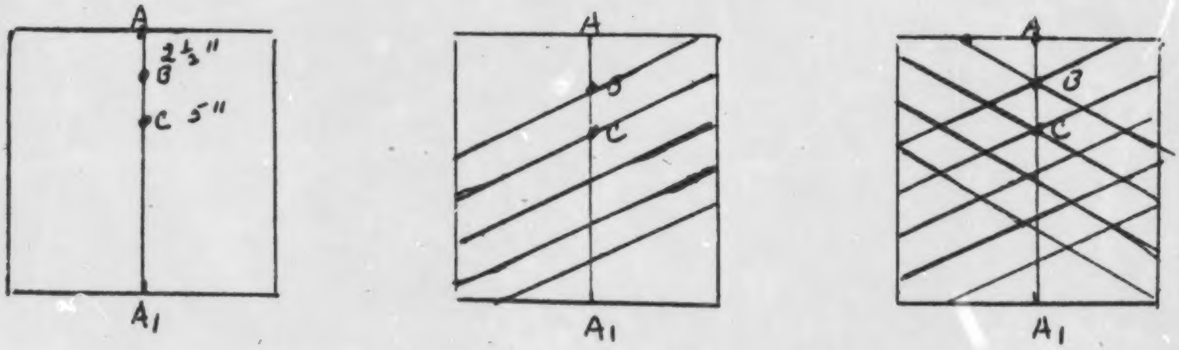


Figure 1 Figure 2 Figure 3

Diagram E

Learning Activity #3. Demonstrate the process used in quilting fabric to foam.

Place fabric on ½ inch foam with backed side away from the fabric. Hold foam and vinyl together when starting to sew to keep edges even. Do not back stitch, keep fabric taut, do not let it pucker, do not pull or stretch. This takes some practice in handling and can only be mastered by actually sewing the two together and gaining experience. Start at the top and sew all lines going one direction first. Then sew all lines going the opposite direction. As the skills improve one can avoid cutting thread and loss of time by sewing around diamonds in one continuous line as far as possible.

The student will quilt fabric to foam following the above instructions.

RESOURCES AND TEACHER REFERENCES

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2. Instruction Booklets on Upholstery Power Machines.

3. Brumbaugh, James E. Upholstering. Theodore Audel & Co., 4300 West 62 Street, Indianapolis, Indiana, 46268.

4. Luna, Benjamin C. Upholstery Refinishing and Restyling, American Technical Society, Chicago, Ill. 60637.

5. Recreational Vehicle and Upholstery Industrial Companies in your area.

PERFORMANCE CHECKLIST

	Satisfactory	Not Satisfactory
Competency #1		
Learning Activity #1		
#2		
#3		
#4		
Competency #2		
Learning Activity #1		
#2		
#3		
#4		
#5		
Competency #3		
Learning Activity #1		
#2		
#3		

ALTERATIONS

ALTERATIONS

Ready-made garments are available in a variety of sizes but are mainly cut for the standard figure type. Most figures do not conform to the ideal figure. A person who can buy a perfect fitting garment is indeed fortunate.

Nearly everyone requires adjustments in their clothing no matter how minor they might be. Women who do not sew need the services of a person who alters ready-to-wear. Most stores that deal in ready-to-wear clothing offer alteration services for the convenience of their customers. There is a need and demand for these services. A person skilled in this field can secure employment in any number of places; ie., retail stores, department stores, and speciality stores.

The purpose of this module is to acquaint students with the occupation of an alteration person. Knowledge of opportunities available as well as skill requirements in this occupation are necessary for completion of this module.

Module prerequisites: Intermediate construction skills.

Upon completing this module students should be able to:

1. Identify career opportunities available in alterations.
2. Identify problems in fit which are practical or impractical to alter.
3. Interpret alterations tags and markings.
4. Identify and perform pressing skills with various types of fabrics and construction methods.
5. Perform skills in alterating armholes and sleeves.
6. Perform skills in adjusting sideseams.
7. Identify and perform skills necessary to alter waists of men's slacks.
8. Perform skills in positioning darts and altering midriff area.
9. Adjust and alter necklines (men's and women's).
10. Perform skills in lengthening and shortening hems.

SUPPLIES FOR CLASS

Scissors
Shears
Pins
Needles
Tape Measure
Ironing Board
Iron
Yard Stick
Sewing Machine
Bobbins
Needles
Distilled water
Interfacing

Competency #1

Text book (Opportunities in Clothing)
Newspaper

Competency #2

Text book (Opportunities in Clothing)
Garment

Competency #3

Garment

Competency #4

Samples of Hem types
Samples of Handstitched Samples
Garment
Filmstrip - Turning up a Hem

Competency #5

Garment
Text book (Opportunities in Clothing)

Competency #6

Garment
Text book (Opportunities in Clothing)
Samples of Stitches

Competency #7

Pants

Competency #8

Text book (Opportunities in Clothing)

Competency #9

Garment

Competency #10

- Pressing Equipment
- Tailor's Ham
- Iron
- Ironing Board
- Needle Board
- Point Presser
- Sponge
- Fabric Samples
  - acetate
  - wool
  - cotton
  - silk
  - linen
  - knits
  - pile fabric
  - nylon
- Sleeve Roll
- Magazine
- Cloth
- Press Cloth Wool, Cotton
- Towel
- Wool Scraps
- Cotton Fabric
- Wool Fabric

COMPETENCY #1. Identify career opportunities available in alterations.

LEARNING ACTIVITIES

In order to meet this competency you should be able to perform the following:

1. Compile a list of establishments which might employ alterationists; divide in small groups and survey the business establishments and report back to the class.
2. Read the classified ads for job openings in garment alterations and keep a notebook of openings.
3. Listen to guest lecturers or panel consisting of a men's tailor, women's department store alterationist, dry cleaner alterationist and a self-employed alterationist present a discussion on how their jobs differ; subjects to include are; salary, job satisfaction, type of work, knowledge and experience, etc. on the job--be able to discuss your findings.
4. Talk to companies, state or private employment offices who hire alterationists to determine attitudes about hiring locally trained alterationists.
5. Rate your own qualifications as a clothing alterationist using the format: Would I be a successful alterationist?
6. Identify skills required to be an alterationist. Read Opportunities in Clothing, pages 307-8.

References

1. Opportunities in Clothing by Irene McDermott and Jeanne Norris, Chapter 8.
2. Clothing Alterations, Competency Based Teaching Module, pages 268-277.

Learning Activity #1. Compile a list of establishments which might employ alterationists; divide in small groups and survey the business establishments and report back to class.

Names of Business	Location	Special needs

Learning Activity #2. Read the classified ads for job openings in garment alterations and keep a notebook of openings.

The project will cover the time span needed to complete the module. The scrapbook should have a number of classified ads of varied kinds. The classified ads should be bound on paper and then placed neatly in a notebook. Evaluation will be based on number and type of ads as well as neatness of the total notebook.

Learning Activity #3. Listen to guest lecturers or panel consisting of a dry cleaner alterationist, a self-employed alterationist, a men's department store tailor and a women's department store alterationist present a discussion on how their jobs differ; subjects to include are salary, type of work, knowledge and experience, job satisfaction, etc. on the job--be able to discuss your findings.

1. Your teacher or an appointed group of students will arrange for the guest lecturer or panel.
2. Answer the following:

Type of Alterationist	Job Description	Salary	Other

Which jobs are most similar?

Which jobs differ most, Why?

Learning Activity #4. Talk to companies, state or private employment offices, who hire alterationists to determine attitudes about hiring locally trained alterationists.

Divide into groups or go as individuals. Each group or individual in the class will give a presentation to the class on the results of the findings in their assigned areas.

Learning Activity #5. Discuss your own qualifications as a clothing alterationist using the format: Would I be a successful alterationist?

Would I Be a Successful Clothing Alterationist?

The following qualifications apply to traits a clothing alterationist should have.

Check the items which apply to you.

_____ 1. Work well under pressure.
_____ 2. Enjoy sewing?
_____ 3. Enjoy working with small detailed jobs.
_____ 4. Well groomed at all times.
_____ 5. Work easily with other people.
_____ 6. Show ability to work in a number of situations.
_____ 7. Take suggestions from other people.
_____ 8. Work in a neat orderly way.
_____ 9. Follow instructions.
_____10. Enjoy helping other people.

Learning Activity #6. Identify skills required to be an alterationist.
Read Opportunities in Clothing pages 307-8.

Type of Alterationist	Skill Requirements

Opportunities in Clothing, Irene E. McDermott, Jeanne L. Norris, Chas. A. Bennett Co., Inc., Peoria, Illinois, pages 307-8.

COMPETENCY #2. Identify problems in fit which are practical or impractical to alter.

LEARNING ACTIVITIES

In order to meet this competency you should be able to perform the following:

1. Arrange a field trip to a rummage sale, thrift shop, or second-hand store. Identify garments which can be repaired successfully. You could possibly buy old garments to work on in class.
2. Using brainstorm technique, with class members, make a list of factors to be considered before repairing a garment. (Refer to handout - Things you should consider before altering a garment)
3. Invite an alterationist to come to your class to speak on what kinds of alterations are performed in most basic clothing stores.
4. Bring garments to class that can no longer be worn. Work with a partner and determine if alterations are needed in order to make the garment fit. Use "Guidelines for proper fit" (page 312 in Opportunities in Clothing) as a reference.
5. Discuss in class how procedures a dressmaker uses in making alterations during garment construction differ from altering ready-to-wear clothes. Reference - Opportunities in Clothing, pages 307-312.

References

1. Competency Based Curriculum for Clothing Services and Production Sewing by Charlotte Blake, pages 259-261.
2. Opportunities in Clothing by Irene McDermott and Jeanne Norris, pages 307-312.
3. Clothing Alterations, Competency Based Teaching Module, pages 158-162.

Learning Activity #1. Arrange a field trip to a rummage sale, thrift shop, or second-hand store. Identify garments which can be repaired successfully. You could possibly buy old garments to work on in class.

Use the attached form to help make the field trip more meaningful. Any garment bought on the field trip should be carefully inspected to make sure damages can be repaired and that the condition and cast off garment is such that it would be a worthwhile investment.

Name______________________________

Date______________________________

REPORT ON FIELD TRIP

Direction: Fill in this form on completion of field trip.

1. Things which most impressed you.

2. Things you feel could be improved.

[illegible] Briefly describe your impression of the total trip.

Learning Activity #2. Using the brainstorm technique, with class members, make a list of factors to be considered before repairing a garment. (Refer to Handout - Things you should consider before altering a garment.)

Brainstorming Technique - all members of the group contribute any idea or thought they have on a given subject without studying or thinking about it. The list is then reviewed and any unuseable ideas are cast out.

Use hand-out as a reference but see how many of your own ideas you can come up with.

THINGS YOU SHOULD CONSIDER BEFORE ALTERING A GARMENT

1. Fabric of the garment - Is the fabric in good shape or will altering it tend to destroy it more? Many seam marks can not be removed from the fabric so check this characteristic before beginning alteration. Also check the weave of the fabric. If it is a tight weave then a smaller seam allowance can be made without fear of raveling.
2. Seam allowance - In many garments the seams may be trimmed or notched so it is impossible to let seam out. Also in some newer garments it may be hard to remove stitching marks after the seam is removed. Again check the weave of the fabric. This may be the determining factor in deciding whether the seam can be let out.
3. Pressing - Many garments are pressed in such a way that any changing is impossible. There may be a press line or hem that is put in so that it is impossible to remove or repress.
4. Hems - If the hem is too narrow to be let down it may be difficult to face or add fabric. Many times it is difficult to remove the press line on the hem.
5. Darts - Is the dart cut in at all or is it clipped or drilled? If this is the case the darts can not be let out or moved. They can only be sewn deeper.
6. How big a job is the alteration - Many large alterations may not be worth your time and the customer's money. Inform the customer before you begin of the time and money involved in such an alteration. Many times the original design of the garment may be changed due to the alteration. Inform the customer of the changes as well as cost.

Learning Activity #3. Invite an alterationist to come to your class to speak about what types of alterations are performed in most basic clothing stores.

On the attached form list all the kinds of alterations that are performed in a basic clothing store as outlined by the alterationist.

The guest alterationist should work at a general department store such as Penny's, ZCMI, Castleton's, etc.

Name________________________

Date________________________

Kinds of Alterations performed in a Basic Clothing Store

Learning Activity #4. Bring garments to class that can no longer be worn. Work with a partner and determine if alterations are needed in order to make the garment fit. Use "Guidelines for proper fit" (page 312 in Opportunities in Clothing) as a reference.

Any other references available to you are advised to be used.

Learning Activity #5. Discuss in class how procedures a dressmaker uses in making alterations during garment construction differ from altering ready-to-wear clothes. Reference - Opportunities in Clothing, pages 307-312.

This is one of the major points of this module. Make sure you are very much aware of the differences. Any basic clothing book would also be helpful in comparing clothing construction methods.

COMPETENCY #3. Interpret alteration tags and markings.

LEARNING ACTIVITIES

In order to meet this competency you should be able to perform the following:

1. Complete the pre-test consisting of alteration symbols and information included on alteration tags.
2. Develop an alteration tag of your own design to be used in classroom alterations.
3. Mark a garment of your own to be altered using the correct markings.
4. Complete a post-test consisting of the alteration symbols plus information included on alteration tags.
5. Secure copies of the Records of customer's measurements - men's and women's. Practice taking measurements of other students. Fill in record sheets.

References

1. Guides to Clothing Alterations Alteration Tags and Markings by Virginia Morton, Total Learning package.
2. Tailoring from Fit to Finish, Sears, pages 5-11.
3. Opportunities in Clothing by Irene McDermott and Jeanne Norris, pages 310-11.
4. Clothing Alterations, Competency Based Teaching Module, pages 158-162.

Learning Activity #1. Complete the pre-test consisting of alteration symbols and information included on alteration tags.

The pre-test and the post-test will be the same test. This is done as a measurement of the effectiveness of the unit. If the same information is repeated it is easier to see what learning has occurred. Your teacher may wish to change the post or pre-test around a little to increase students learning.

Pre-test on Alteration Symbols and Tags

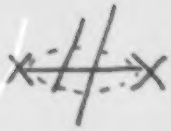
COMPLETION

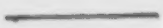
1. What general information is included on the alteration tag?

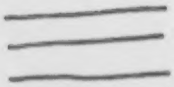
   a.
   b.
   c.
   d.
   e.
   f.
   g.
   h.

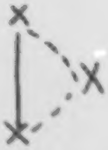
MATCHING

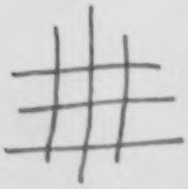
a. Shortening mark
b. Take in one side only
c. let out
d. Shrink
e. Let out seam
f. Let out space between

1.___ 

2.___ 

3.___ 

4.___ 

5.___ 

Pre-test on Alteration Symbols and Tags

COMPLETION

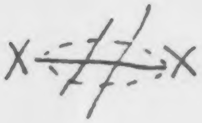
1. What general information is included on the alteration tag?

   a. Customer's name
   b. Customer's address
   c. Customer's phone number
   d. Date garment brought in
   e. Date garment will be finished
   f. Description of garment
   g. name of salesman
   h. Description of the work to be done using correct measurements
   i. Tailors charges
   j. Type of payment

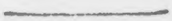
MATCHING

a. Shortening mark
b. Take in one side only
c. Let out
d. Shrink
e. Let out seam
f. Let out space between

f 1.



a 2.



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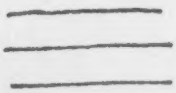

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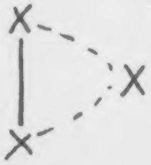
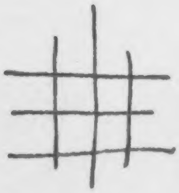


e 5.



Learning Activity #2. Develop an alteration tag of your own design to be used in classroom alterations.

This tag may be of any design as long as it is readable and contains the information needed. Make the tag large enough to be found easily yet small enough to be out of the way. This is your project so do it the best you can. Any resources available in the classroom or in your homes are permitted.

INFORMATION ON ALTERATION TAGS

1. Each tag should have the following information
    a. customer's name
    b. customer's address
    c. customer's phone
    d. date garment was brought
    e. date garment will be finished
    f. description of garment
    g. name of salesperson
    h. description of the work to be done using correct measurements
    i. tailor's charges
    j. type of payment
2. Always make alteration tags in duplicate so both the alterationist and customer have a copy. This eliminates a lot of misunderstandings on the type of work to be done.
3. Always check to make sure information on ticket and markings on garment are correct.

SAMPLE OF ALTERATION TAG

Date____________no. 44885
Salesperson_________________
Customer's name_____________
Address_____________________
Phone Number________________
Date Needed_________________
Alteration   Cost
___________________   _______
___________________   _______
___________________   _______
Materials Supplied
____
___________________   _______
Subtotal   _______
Tax   _______
Total   _______
Paid_________C.O.D.   _______

Additional Comments on Back

Diagram A

Learning Activity #3. Mark a garment of your own to be altered using the correct markings.

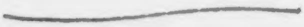
1. Use at least two of the markings on a garment of your choice. Use the handout as a reference for the alteration markings. Check with teacher when the markings are completed before beginning the work.
2. Study the alterations handout so that you will be able to identify alteration markings on other students' garments.
3. Share with the other students the types of alterations each plans to do.

Learning Activity #4. Complete a post-test consisting of the alteration symbols plus information included on alteration tags.

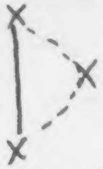
To be given at the end of the unit. Each student will check their own paper and make the necessary corrections.

ALTERATION SYMBOLS

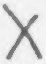
Shortening Mark



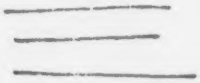
Take in one side only



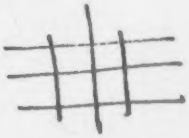
One side only to be altered



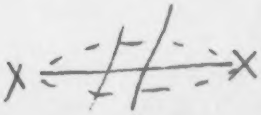
Let out



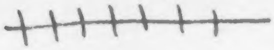
Let out seam



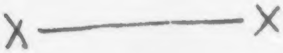
Let out space between



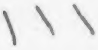
Lengthening Mark



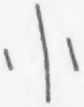
Space to be altered



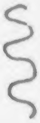
Stretch



Take in Seam



Shrink



Take in space between

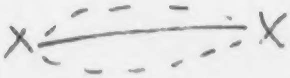


Diagram B

Post-test on Alteration Symbols and Tags

COMPLETION

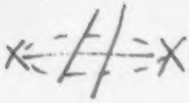
1. What general information is included on the alteration tag?

   a.
   b.
   c.
   d.
   e.
   f.
   g.
   h.

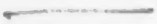
MATCHING

a. Shortening mark
b. Take in one side only
c. Let out
d. Shrink
e. Let out seam
f. Let out space between

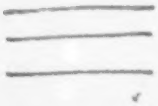
__1.



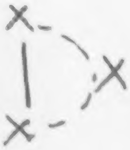
__2.



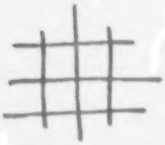
__3.



__4.



__5.



Post-test on Alteration Symbols and Tags

COMPLETION

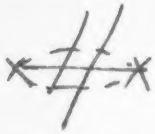
1. What general information is included on the alteration tag?

   a. Customer's name
   b. Customer's address
   c. Customer's phone number
   d. Date garment was brought in
   e. Date garment will be finished
   f. Description of garment
   g. name of salesperson
   h. Description of the work to be done using correct measurements
   i. tailor's charges
   j. type of payment

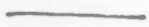
MATCHING

a. Shortening mark
b. Take in one side only
c. Let out
d. Shrink
e. Let out seam
f. Let out space between

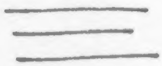
f 1.



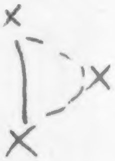
a 2.



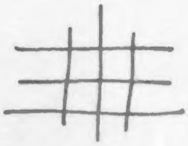
c 3.



b 4.



e 5.



Learning Activity #5. Secure copies of the Records of customer's measurements - men's and women's. Practice taking measurements of other students. Fill in record sheet.

Take all required measurements of partner. If any questions then refer to Opportunities in Clothing or any other available clothing text book on correct methods of taking measurements and the correct places in which to take them.

COMPETENCY #4. Identify and perform skills required for pressing various types of fabrics and construction methods.

LEARNING ACTIVITIES

In order to meet this competency you should be able to perform the following:

1. Listen to a lecture on pressing various types of fabrics; included should be samples which have been pressed correctly and incorrectly. Read Pressing Methods.
2. Demonstration on making pressing equipment and then make own.
3. Take a field trip to an alteration shop and observe the equipment that is used for pressing in a shop.

References

1. Speece, J. Pressing Methods. Lincoln, Nebraska 68583: University of Nebraska Cooperative Extension Service, n.d.
2. Clothing Alterations, Competency Based Teaching Module, pages 117-119.
3. Tailoring from Fit to Finish, Sears, pages 75-6.
4. Opportunities in Clothing by Irene McDermott and Jeanne Norris, pages 310-11.

Men's Measurement Chart

Name____Date____________________

Address (Home)____

Phone (Home)____

Address (Business)____

Phone (Business)____

AREA	MEASUREMENTS	CHANGES	FINISHED SIZE
waist			
hips			
chest			
back waist length			
front waist length			
neck			
arm length			
back shoulder width			

Women's Measurement Chart

Name________________________________Date__________

Address (Home)______________________________________

Phone (Home)____

Address (Business)__________________________________

Phone (Business)___________________________________

AREA	MEASUREMENT	CHANGES	FINISHED SIZE
bust			
waist			
hips-3 in down			
hips- 7 in down			
sleeve length			
back waist length			
shoulder width			
shoulder to elbow			
skirt length			
dress length			
pants length			

Learning Activity #1. Listen to a lecture on pressing various types of fabrics; included should be samples which have been pressed correctly and incorrectly. Read Pressing Methods.

Speece, J. Pressing Methods. Lincoln, Nebraska 68583: University of Nebraska Cooperative Extension Service, n.d.

Lecture on Pressing

Ironing Board

It should be well padded, about ¼" thick. It should have a smooth cloth covered frame that adjusts to the workers needed height.

Iron

A regular household steam iron can be used. Make sure an accurate temperature control is found on the iron.

Sponge

Used to moisten press cloth.

Needle Board

Used for pressing pile fabrics without crushing the pile.

Point Presser

Used for pressing points on collars and lapels.

Pressing Fabrics

Acetate - set iron on lowest setting. Use press cloth if need to press on right side arises otherwise press on wrong side.

Wool - Use moist heat either a damp press cloth or steam iron. Use warm iron. Always press on wrong side but it need comes up of pressing on right side use a wool press cloth.

Silk - guard against water spotting by using steam only when necessary. Use warm iron and press on the wrong side.

Pile Fabric - avoid setting iron on pile fabric use a needle board. Use as little pressure as possible. Always iron on wrong side.

Cotton - use a hot iron, with or without moisture. Can be pressed on either right or wrong side.

Knits - Do not press knits. Steam but pressing will stretch the fabric.

Linen - Use hot iron. Linen must be very damp when pressed. Always iron on wrong side to avoid shine.

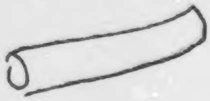
Nylon - Use a cool iron. Use a press cloth to avoid shine if steam is used.

Learning Activity #2. Demonstration on making pressing equipment and then make own.

Each student should be responsible for making his/her own pressing equipment. The methods and directions on the handout Equipment for Pressing.

Equipment for Pressing

Sleeve Roll - is used when pressing seams so the edges of seams do not mark the garment.



1. Roll up a large fluffy towel and stitch closed.
2. Cover a rolled up magazine with cloth and stitched closed.

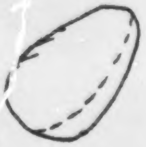
Press cloth - used to cover fabrics when pressing. Type of cloth depends on fabric being used.

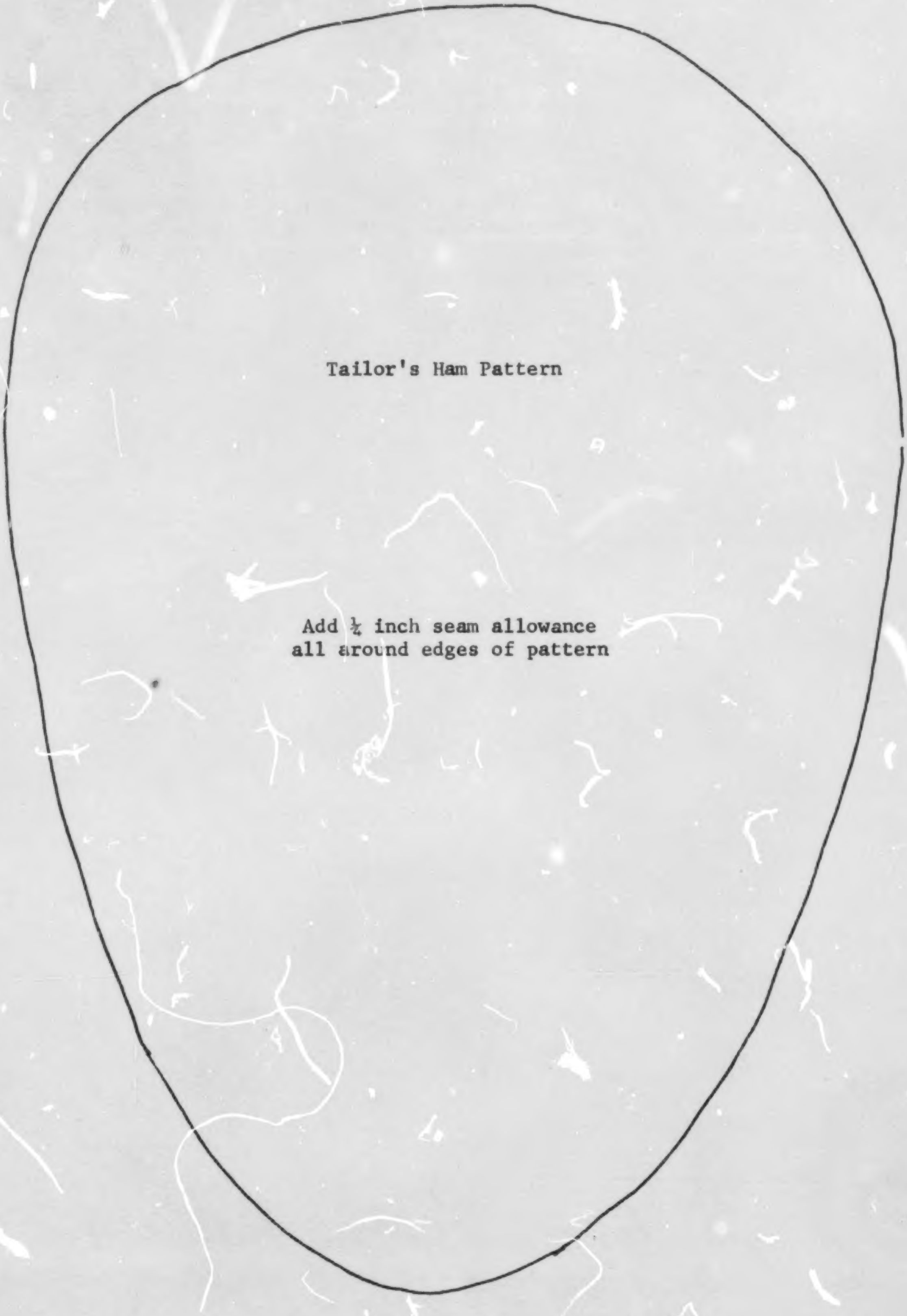
Wool - used for pressing wool fabrics. A left over scrap of fabric might be used.

Cotton - used to press synthetics, blends or cottons.

Tailor's Ham - used to maintain shape of darts or curved areas while pressing.

Outside is made of cotton and stuffed with wool scraps. Must be stuffed as tight as possible. Whip stitch closed and then make a cover for it with one side cotton and one side wool. The cover can be easily replaced when soiled.





Tailor's Ham Pattern

Add ¼ inch seam allowance
all around edges of pattern

Diagram C

Learning Activity #3. Take a field trip to an alteration shop and observe the equipment that is used for pressing in a shop.

The alteration shops are usually very happy to have field trips come to their shops and see what the business is all about. Not only does it create an understanding among people as to what the business is like but it also helps to create business. Make sure that the trip is well planned in advance so the shop owners are prepared.

Students should fill out the evaluation on the field trip as a help to them in learning concepts. Examples of equipment found in an alteration shop would be:

1. hand iron
2. ironing board
3. steam press
4. form finisher
5. press cloth
6. needle board
7. sleeve board
8. tailor's ham

Field Trip Evaluation

Name______________________________

Date______________________________

1. Most impressive things learned.

2. Any questions or concerns.

3. What could have been improved?

4. List equipment used and method and purpose for each.

COMPETENCY #5. Perform skills in altering armholes and sleeves.

LEARNING ACTIVITIES

In order to meet this competency you should be able to complete the following:

1. Read Opportunities in Clothing, pages 334-336.
2. List the correct methods for altering an armhole and sleeve.
3. Give demonstration on the correct method of sleeve removal.
4. Alter a sleeve or armhole using correct method. Work with partners checking one another's work.
5. Shortening and lengthening hems
    a. casing with elastic
    b. cuffs
        1. enclosed seam
        2. exposed seam
    c. plackets
    d. men's coat sleeves
    e. cuffs
        1. true
        2. false

References

1. Opportunities in Clothing by Irene McDermott and Jeanne Norris, pages 334-336.
2. Tailoring From Fit to Finish, Sears, pages 13-45.
3. Complete Guide to Sewing, Reader's Digest, pages 253-273.
4. Altering for Fit and Style by Theta Johnson, Extension Clothing Specialist, pages 3 and 4.

Learning Activity #1. Read Opportunities in Clothing, pages 334-336.

Learning Activity #2. List the correct methods for altering an armhole and sleeve.

Checklist for Armhole/Sleeve Alteration

If the armhole is too tight - let out the underarm seam in both the sleeve and bodice. Also can be corrected by stitching a deeper armhole seam under the arm.

If the armhole is too large - take a deeper underarm seam in both sleeve and bodice.

If sleeve is too tight- let out the underarm seam the total length of the seam.

If sleeve is too loose - take in the underarm seam the total length of the seam.

Learning Activity #3. Give demonstration on the correct method of sleeve removal.

Learning Activity #4. Alter a sleeve or armhole using correct method. Work with partners checking one another's work.

Use the method learned in learning activities #2, 3.

CHANGE SLEEVES

Shorten Sleeves:

Too long a sleeve makes you feel slouchy.

1. Remove sleeve from armseye. Cut off extra length from top of sleeve and reset. This is especially good for shirt sleeves with cuff and placket.
2. Shortening the shoulder line.

Lengthen Sleeves:

1. Add facing - to match or contrast.
2. False cuffs or trim
3. Use a tailor's hem.

Short sleeves will look better if hem is faced, giving an extra inch or more to length of sleeve.

Add Width:

Sleeve styles have been narrow and fit very few middle aged women. They are uncomfortable and cause neckline and shoulders to stand away from body.

1. Sleeve with seam 5/8" or narrower.
    a. Find fabric to match dress-scrap if you made the dress, or from a pocket, belt, hem, etc., from ready-made.
    b. Remove stitching under arm or remove sleeve.
    c. Set in piece to give desired width around fullest part of arm. Straight piece on short sleeves - triangle for long sleeves.
    d. The sleeve will now be 1 to 2 inches larger. Reset sleeve and ease fullness below notches or sew one or two small darts about 1 inch long at underarm. Most sleeves will look better if some of the underarm fullness is worked into the sleeve cap.
2. Sleeve with wide seam.
    a. Undo lower part of armseye seam.
    b. Make narrower seam in sleeve. Ease in or dart out fullness (1/3 inch by 1 inch long) on each side of underarm seam.
    c. Reset sleeve.

*Contents of this worksheet were quoted with permission of author from booklet "Altering for Fit and Style", page 3-4.

Learning Activity #5. Shortening and lengthening Hems.

- a. casing with elastic
- b. cuffs
    - 1. enclosed seam
    - 2. exposed seam
- c. plackets
- d. men's coat sleeves
- e. cuffs
    - 1. true
    - 2. false

Refer to Competency #4, Learning Activity #3 for information

COMPETENCY #6. Perform skills required in adjusting sideseams.

LEARNING ACTIVITIES

In order to meet this competency you should be able to complete the following:

1. Discuss how to rip-out stitching properly.
2. Practice stitch removal on a sample that is provided by the instructor.
3. Work with your partner and practice fitting garments that need altering at the side seams using pins.

References

1. Opportunities in Clothing by Irene McDermott and Jeanne Norris, pages 321-322, 309-311.
2. Competency Based Curriculum for Clothing Services and Production Sewing by Charlotte Blake, pages 267-9.

Learning Activity #1. Discuss how to rip-out stitching properly. Review this technique by reading pages 321-322 in Opportunities in Clothing.

RIPPING OUT STITCHES

For removing stitches from clothing snip the threads every few stitches with scissors or a seam ripper. Be very careful not to cut or damage the fabric. After stitches are cut you can pull apart the fabrics. If the stitches are very small, it may be necessary to use a small pin to remove them. Another method of stitch removal is the razor or razor knife. Glide this tool along the fabric rather than aiming at the threads. This helps to stop cutting of the fabric. Be extra careful with any ripping method, avoid accidental cutting of the fabric.

Before removing any stitching from a garment make sure you study it carefully. This aids in the reconstruction of the garment and that its overall appearance will not be affected.

Learning Activity #2. Practice stitch removal on a sample that is provided by the instructor.

Learning Activity #3. Work with your partner and practice fitting garments that need altering at the side seams using pins. Use the pin fitting method described in Opportunities in Clothing, pages 309-311. Have teacher check fitting.

Use the following method:
1. Decide what problem is
   a. too small in hips
   b. too small in bust
   c. too large in hips
   d. too large in bust
2. Mark changes
3. Remove seams
4. Press
5. Replace stitches
6. Press
7. Final fitting

There are two basic pinning methods used in fitting; they are lap or pinning methods.
   a. Lap - pin one side over the other and pin flat.
   b. Pinning - pin close together and on the fold line where new seam should be placed.

COMPETENCY #7. Identify and perform skills to alter waists of men's slacks.

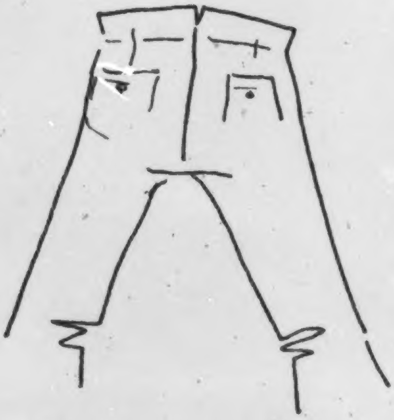
LEARNING ACTIVITIES

In order to meet this competency you should be able to perform the following:

1. Observe demonstration of alterations on the waist lines of men's slacks where the garment is too large or too small. Refer to pages 45-59 Tailoring From Fit to Finish.
2. Bring in ill fitting pants to try on. Working with a partner, mark pants and determine adjustments to be made.
3. Find photographs or talk to persons in men's clothing stores to determine the recent fashions and fit of men's pants.
4. Advertise in the area for men's slacks in need of waistline alterations. (The man must be available for fitting.)
5. Adjust pants to correct fit using available references and resources.

References

1. Tailoring from Fit to Finish, Sears, pages 21-31, 45-62.
2. Complete Guide to Sewing, Reader's Digest, pages 238-252.
3. Competency Based Curriculum for Clothing Services and Production Sewing by Charlotte Blake, pages 270-271.
4. Clothing Alterations, Competency Based Teaching Module, pages 208-214.



Learning Activity #1. Observe demonstration of alterations on waist lines of men's slack where the garment is too large or too small. Refer to pages 45-59 Tailoring From Fit to Finish.

Altering Waist and Hips

Reducing

Slacks can be made smaller by as much as two inches by taking in the center back seam. If more than two inches are taken in the side seam, pant's creases, and side pockets are thrown off.

To make alteration rip the loop off the center back seam. Mark the new seam then sew it. Rip out old seam, press open the seam and sew in place. If necessary, replace belt loop on center seam.

In making waist and seat smaller, take in waist desired amount and taper down following the contour of the crotch. In making seat smaller start three inches below the waist and follow the same procedure as above.

Increasing

Usually there is enough fabric to allow a 1½-2 inch increase. Observe when customer is trying on the slacks to make sure this is the case.

A V can be built into the slacks to increase the size. This is done by inserting a piece of fabric that is a V-shaped in back. It is usually made of the same fabric or a close match.

Learning Activity #2. Bring ill fitting pants to try on. Working with a partner, mark pants and determine adjustments to be made.

Learning Activity #3. Find photographs or talk to persons in men's clothing stores to determine the recent fashions and fit of men's pants.

Mount the pictures or photographs on cards and briefly describe the fashion trend that each shows. Write up the interview and list all styles and concepts discussed.

Learning Activity #4. Advertise in the area for men's slacks in need of waistline alterations. (The man must be available for fittings.)

Advertise in the schools for the men's slacks. As strange as it may seem your student peers are much more willing than the older man. Posters or even word of mouth are methods effective in getting the word out. This is where your creative side comes out.

Learning Activity #5. Adjust pants to correct fit using available references and resources.

After you have found out thru available resources the correct fit of men's pants, alter a pair for a man. Have your instructor check your work.

COMPETENCY #8. Perform skills required in positioning darts and altering midriff area.

LEARNING ACTIVITIES

In order to meet this competency you should be able to complete the following:

1. Read Opportunities in Clothing, page 332-334.
2. Give a demonstration on altering a dart in a garment.
3. Interview an older citizen about fitting problems in the bustline. Alter garment for an older citizen with fitting problems.

References

1. Clothing Alterations, Competency Based Teaching Module, pages 117-119.
2. Complete Guide to Sewing, Reader's Digest, page 159.
3. Opportunities in Clothing, by Irene McDermott and Jeanne Norris, pages 332-334.

Learning Activity #1. Read Opportunities in Clothing pages 332-334.

This deals with correct methods of altering darts and midriff areas. A questionnaire may be developed if the need arises but the completing of an altered garment should be evaluation enough.

Learning Activity #2. Give a demonstration on altering a dart in a garment.

Any good sewing book would be a good reference for the demonstration. Probably your best reference is the class textbook "Opportunities in Clothing" pages 332-334.

Things to Remember in Altering a Dart

1. If the dart is cut it cannot be moved or let out, but it can be taken in.
2. Many fabrics leave marks where the darts were when you let out or alter them.
3. Many times changing the slant of a dart will solve the fitting problem rather than decreasing or increasing the dart.
4. Try not to cut the dart after resewing it. This is in the case that altering may need to be done again.
   Good samples of altering darts are pictured in the text book.

Learning Activity #3. Interview an older citizen about fitting problems in the bustline. Alter garment for an older citizen with fitting problem.

Use attached forms in the interview process so as to get the best possible results from the interview. The older citizens would be much more helpful in this project if you offered to do the alteration work for free as a thank you for their help.

Women's Measurement Chart

Name____Date________________

Address (Home)____

Phone (Home)____

Address (Business)____

Phone (Business)____

AREA	MEASUREMENT	CHANGES	FINISHED SIZE
bust			
waist			
hips - 3 in down			
hips - 7 in down			
sleeve length			
back waist length			
shoulder width			
shoulder to elbow			
skirt length			
dress length			
pants length			

Interview Guide Sheet

Name ______________________________

Date ______________________________

Directions: In order to have a direction to your interview fill in the following information.

1. Person being interviewed ____

2. Objective of the interview

3. Questions to ask

4. Response to questions

5. How effective do you feel the interview was in meeting your objectives?

COMPETENCY #9. Adjust and alter necklines (men's and women's).

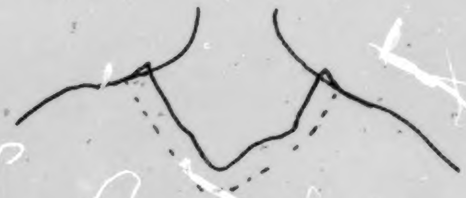
LEARNING ACTIVITIES

In order to meet this competency you should be able to perform the following:

1. Discuss which alterations are possible to make on the shoulder line. Refer to hand-out Shoulderline Alterations.
2. Alter a dress or article which has a neckline.
3. Brainstorm with class about various neckline problems. Report to the class after looking at all available references.

References

1. Tailoring from Fit to Finish, Sears, pages 21-31.
2. Opportunities in Clothing by Irene McDermott and Jeanne Norris, pages 325-334.
3. Clothing Alterations, Competency Based Teaching Module, pages 180-183.



Learning Activity #1. Discuss which alterations are possible to make on the shoulder line. Refer to hand-out Shoulderline Alterations.

Neck and Shoulderline Alterations

1. Neckline too high - cut lower.
2. If the neckline is tight - let out shoulder seams enough to relieve strain.
3. If the neckline is too large - take a deeper shoulder seam.
4. If the neckline gaps in front - move the front shoulder toward armholes.
5. If the neckline gaps in back - make small darts in neckline to east fullness.
6. Diagonal wrinkles from the neckline to underarm - take deeper shoulder seam at the armhole.
7. Wrinkle from top of armhole toward the bustline - take a deeper shoulder seam at the neck end or release the shoulder seam at the armhole edge.

Learning Activity #2. Alter a dress or article which has a neckline problem. Have instructor check when article is finished.

Learning Activity #3. Brainstorm with class about various neckline problems. Report to the class after looking at all available references.

Brainstorming Technique - all members of the group suggest any idea or thought they have on a given subject without studying or thinking about it. The list is then reviewed and any unuseable ideas are cast out.

Use the text book as a reference. Opportunities in Clothing, pages 325-334.

COMPETENCY #10. Perform skills in lengthening and shortening hems.

LEARNING ACTIVITIES

In order to meet this competency you should be able to perform the following:

1. Make samples of the basic hem types and mount on cards. Write below where hem is best used. Include facts such as fabric weight, weave, and fiber content.
    - a. lace
    - b. seam tape
    - c. facing
    - d. stitched and pinked
    - e. turned and edgestitched
    - f. narrow machine stitched
2. Make handstitched samples of a catch stitch, blind stitch, or invisible stitch.
3. See filmstrip Turning up a Hem.
4. Alter the skirt length for a classmate. Use handout "Shortening and Lengthening Hems."
5. Evaluate one of your own hems for neatness. Discuss the well constructed and stitched hems.
6. Observe the operation of an alterations department's hemming procedures. Make a note of all.

References

1. Opportunities in Clothing by Irene McDermott and Jeanne Norris, pages 304-6.
2. Tailoring From Fit to Finish, Sears, pages 70-72, 59, 45-7, 41, 14-15.
3. Competency Based Curriculum for Clothing Services and Production Sewing by Charlotte Blake, pages 262-3.
4. Clothing Alterations, Competency Based Teaching Module, pages 170-179.
5. Altering for Fit and Style by Theta Johnson, Extension Clothing Specialist, page 3.

Learning Activity #1. Make samples of the basic hem types and mount on cards. Write below where hem is best used. Include facts such as fabric weight, weave, and fiber content.

1. lace
2. seam tape
3. faced
4. stitched and pinked
5. turned and edgestitched
6. narrow machine stitched

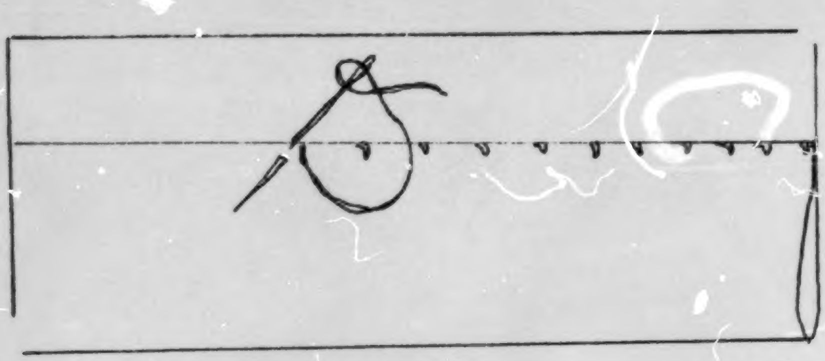
Use 5 by 8 cards to mount the samples. Make sure that all threads and seams are clipped and that the samples are in neat, orderly shape. Write on the back of the cards all needed information as outlined in the learning activities. Use any clothing book available to you as a reference.

Hem Types

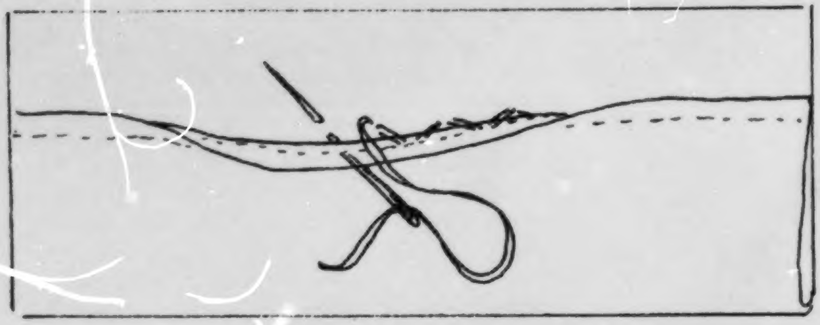
1. Lace - Used for fabric which ravel and also for hems which might show such as a large flared skirt. Used for stretch fabrics.
2. Seam Tape - Used for fabric which ravel and which do not stretch.
3. Faced - Used if the fabric tends to be very bulky. The use of a lighter weight fabric helps it to hang correctly. Also used in cases of limited fabric. Another type of fabric can be used as facing.
4. Stitched and Pinked edge - Good, quick hem for fabrics that ravel little or not at all. Often used on knits.
5. Turned and edgestitched - Used on lightweight fabrics, especially crisp sheers.
6. Narrow Machine stitched - Best for shirts, blouses and dress linings. Is best where neither a deep nor an inconspicuous hem is required.

Learning Activity #2. Make handstitched samples of a catch stitch, blind stitch, or invisible stitch.

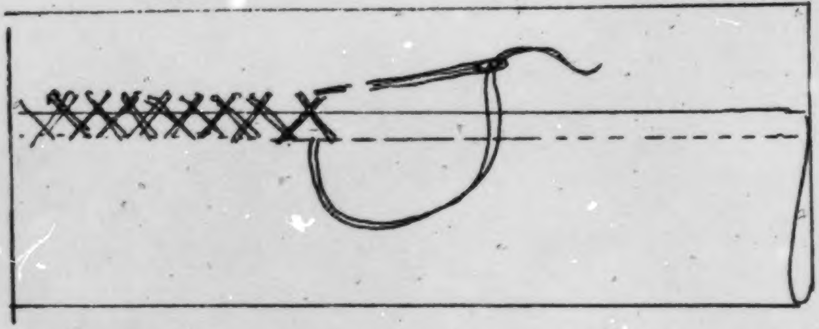
Samples of the named stitches are attached on the form. Use it as a reference to help you. Mount the samples on cards.



Hem Stitch - Figure 1



Blind Stitch - Figure 2



Catch Stitch - Figure 3

Diagram D

Shortening and Lengthening Hems

1. Decide hem length.
2. Mark hem length with either skirt marker or yardstick.
3. Decide on type of hem
    - fabric
    - style of article
    - suitable hem width

Lengthening

A. Let out the Hem - If there is enough fabric to let down to the desired length then take out the stitching and press out the hem. Measure to make sure of hem length then measure, pin, press and stitch up hem.

B. Facing of Hem - This can either be done with the same fabric or a different compatable fabric. Often a wide bias tape is bought. The fabric of the facing is always on the wrong side and never shows on the right side.

C. Add extra Fabric - This fabric can be added to the garment to make it look like part of the garment. Cut the fabric on the same grain as the garment and sew into place. You can cover seam line with a trimming.

D. Inserts - Extra fabric of any type can be inserted in to be made to look like part of the garment. The insert can be added anywhere from the waist line to the hem line. Cut the garment at the desired insert place and add the measured insert. Trims and other laces may be added to cover up the stitch lines.

Shortening

1. Take out old hem.
2. Press out crease mark.
3. Pin in the new hem.
4. Try on the garment to make sure desired length was obtained.
5. Cut the hem to desired width and then use one of the stitches learned in Learning Activity #1.

Use Tailors Hem

The tailors Hem is used in suits and coats to reinforce and add weight to hems. Excellent technique for letting down coat hems.

1. Cut a bias strip of pre-shrunk muslin or other light weight fabric ½ inch wider than the hem width and the length for sleeve circumference or bottom hem.

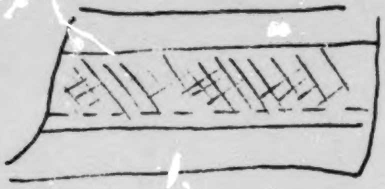


Figure 1

2. Fit the muslin to bottom of hem. Pin the lower edge ¼ inch beyond fold. Pin along fold. Baste a permanent stitch along fold line so it won't show on right side. (Diagram E, Figure 1)

3. Press hem against bias. Make a permanent stitch along edge of hem by hand or machine.

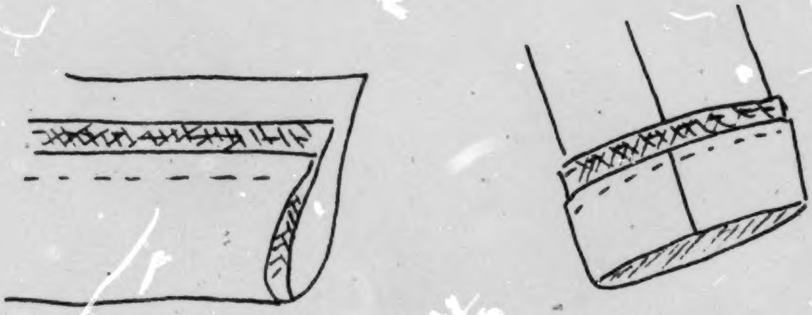


Figure 2

Figure 3

Diagram E

4. Sew top edge of bias to coat with inconspicuous stitches.

*Contents of this worksheet were quoted with permission of author from booklet "Altering for fit and Style" page 3.

Name______________________________

Date______________________________

Evaluation of Hems

Directions: Evaluate your work using the following procedure.

1. Stitches do not show on the right side of fabric.

   Yes_______________ No_______________

2. Hem is the same width in all places.

   Yes_______________ No_______________

3. Stitches are even and close together (½ inch).

   Yes_______________ No_______________

4. Stitches are not pulled tight so they pull fabric.

   Yes_______________ No_______________

5. Hem is press neatly without marking or pulling from the ironing.

   Yes_______________ No_______________

Learning Activity #5. Observe the operation of an alteration department's hemming procedures. Make a note of all procedures.

Closely observe all procedures used for hemming in an alteration department. Note any different or similar methods used in professional alterations and home sewing. Evaluate them.

Learning Activity #6. See filmstrip "Turning up a Hem."

Eothen Films Limited, Turning up a Hem. Chicago, Illinois 60611: Encyclopaedia Britannica Corporation. Summary: Shows use of the skirt marker as well as one method of hemming a slightly flared skirt of woolen fabric.

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PERFORMANCE CHECKLIST

	Satisfactory	Not Satisfactory
Competency #1		
Learning Activity #1		
#2		
#3		
#4		
#5		
#6		
Competency #2		
Learning Activity #1		
#2		
#3		
#4		
#5		
Competency #3		
Learning Activity #1		
#2		
#3		
#4		
#5		

PERFORMANCE CHECKLIST (continued)

	Satisfactory	Not Satisfactory
Competency #4		
Learning Activity #1		
#2		
#3		
Competency #5		
Learning Activity #1		
#2		
#3		
#4		
#5		
Competency #6		
Learning Activity #1		
#2		
#3		
Competency #7		
Learning Activity #1		
#2		
#3		
#4		
#5		

PERFORMANCE CHECKLIST (continued)

	Satisfactory	Not Satisfactory
Competency #8		
Learning Activity #1		
#2		
#3		
Competency #9		
Learning Activity #1		
#2		
#3		
Competency #10		
Learning Activity #1		
#2		
#3		
#4		
#5		
#6		

APPENDIX

Evaluation form used prior to revision of Modular Occupational Clothing Curriculum.

MODULAR VOCATIONAL CLOTHING
CURRICULUM ASSESSMENT FORM *

Instructions: Answer the general questions in Sections I-V for each module. Place an "X" in the appropriate box. Then complete Section VI. Sign and date each form completed.

I. Accuracy - materials that provide inaccurate or misleading information have little utility in the teacher-learning process.

	1	2	3	4	5
1. To what extent is the content accurate?	____	____	____	____	____
	Incorrect			Correct	
2. To what extent is the content timely and up-to-date?	____	____	____	____	____
	Outdated in information, ideas, and/or illustrations			Current in information, ideas, and/or illustrations	
3. To what extent is the content clear and complete?	____	____	____	____	____
	Vague and inconclusive			Sufficiently detailed to prevent misinterpretation	

____Total score for Section I.1 (add numerical values checked)

Comments ____

____

____

____

____

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* Adapted from Curriculum Materials Assessment Form in Curriculum Development in Vocational and Technical Education, Curtis R. Finch and John R. Crunkilton, authors.

II. Appropriateness - appropriateness of materials should be judged in relation to the target population and total subject matter area.

	1	2	3	4	5
1. To what extent are the language and/or visuals appropriate to the target population?	____	____	____	____	____
	Stilted; antiquated language used; trite or too complex			Fluent and easy to understand	
2. To what extent is the content appropriate to the target population?	____	____	____	____	____
	Lacking in challenge			Challenging but not beyond the ability of the learner	
3. To what extent is the content relevant to the total subject matter area?	____	____	____	____	____
	Emphasizes an unimportant aspect of the subject			Important and necessary to the subject matter area	

____Total score for Section II.1 (add numerical values checked)

Comments______________________________________

____

____

____

____

III. Verbal and Visual Fluency - instructional materials should make learning easier by presenting subject matter in a simple and attractive way.

	1	2	3	4	5
1. To what extent is the material appealing to the learner?	_____	_____	_____	_____	_____
	Unattractive; cluttered; poor design			Attractive; simple; effective in design	
2. To what extent is the organization of the material easy to follow?	_____	_____	_____	_____	_____
	Too many ideas treated inadequately			Ideas developed adequately in a logical manner	
3. To what extent is the material interesting and stimulating?	_____	_____	_____	_____	_____
	Treats too few ideas in a redundant manner; dull			Contributes to the development of critical thought and creativity	

_____Total score for Section III.1 (add numerical values checked)

Comments____

____

____

____

____

IV. **Usefulness and Versatility** - instructional materials should be useful in a variety of situations and adaptable to varied needs of students.

	1	2	3	4	5
1. To what extent can the material be used with learners having varying needs?	___	___	___	___	___
	Suitable for limited group of learners			Appropriate to target group with varying level of maturity, economic backgrounds, and learning styles	
2. To what extent can the material be used in a variety of learning environments?	___	___	___	___	___
	No provision for adaptability; useful in only one type of situation			High level of adaptability suitable for varying learning environments	
3. To what extent are the competencies and learning activities relevant to the subject matter area?	___	___	___	___	___
	Unsufficient and poorly related			Excellent choice of competencies and learning activities included	

____Total score for Section IV.1 (add numerical values checked)

Comments____

____

____

Section V- Summary Profile

SECTIONS	MAXIMUM POINTS	SCORE
I	15	_____
II	15	_____
III	15	_____
IV	15	_____
TOTAL	60	

1. Overall assessment of the material (check one)

_____Unacceptable; below 36 points
_____Useful; 36 to 48 points
_____Excellent; 49 to 60 points

2. Does the rating accurately reflect your assessment of the material?

_____Yes _____No (explain)

Comments ______________________________

____

____

____

____

Section VI-1 Learning Environment use.

1. Have you used this material in your classroom? ____Yes ____No.

2. If "yes (#1)," how many students were involved? __________

3. At what grade level were the students who utilized the materials?
____

4. Does this material require in-service teacher training for effective use? ____Yes ____No

5. Do you know of any type of validation that has been done on this material; i.e., pre/posttests, ratings, etc.? ____Yes (explain) ____No

6. Did you use this material in suggested sequence? ____Yes ____No
Give reasons for your answer______________________________
____
____

7. Did you have the necessary equipment available to adequately present this material? ____Yes ____No

8. Did you encounter any external problems because of using this material; i.e., student's parents, school authorities, etc.? ____Yes (explain) ____No
____
____

9. Would you be willing to continue using this material? ____Yes ____No

10. Would you be willing to use this material if satisfactory revisions were made? ____Yes ____No

Thank you for your evaluation. Please sign and date this copy.

____________________Material Assessor

____________________Date

MODULAR VOCATIONAL CLOTHING
CURRICULUM ASSESSMENT FORM

The curriculum to be evaluated is a composite of modules developed by high school teachers in Utah as a requirement for a graduate class in curriculum development at Utah State University. The modules progressed from the initial stage of developing objectives with supporting criteria to their present stage over a year's time under the supervision of Annette Fraser Kelley, Instructor, Clothing and Textiles, in the Department of Home Economics and Consumer Education at Utah State University. They were completed in May, 1979.

The purpose of the modular curriculum program is to make available Vocational Clothing material suitable for use at the secondary and post-secondary levels in the state of Utah.

The modular vocational clothing curriculum, when completed, was sent to each of the module participants as well as those teachers who requested it and wish to be involved in evaluation. It was also sent to a selected group of individuals who act in an advisory capacity from the Utah needletrades.

It is felt by the program supervisor that in order to adequately assess the material, two evaluations must be made: (1) an assessment of the usefulness of the program as field tested by those module participants and others who elected to utilize the material in the classroom; (2) an assessment of the relevancy of the material as perceived from those who act in an advisory capacity.

INSTRUCTIONS FOR EVALUATING MODULES

Each module has a separate evaluation form consisting of I-V sections. If you utilized all -- or parts of all modules, please complete each evaluation. Otherwise, complete evaluation forms for only those modules you have used. Bring completed evaluations to the Occupational Clothing registration desk Monday, June 2, between 8:30 and 9:00 A.M. (This is assuming you will attend the Vocational Conference at U.S.U. If you will not be in attendance, please mail completed forms to Annette Fraser Kelley, UMC 29, Utah State University, Logan, Utah, 84322 before May 28). Thank you.